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ABSTRACT

The Multi-Attribute Utilities Theory (MAUT), a model for the evaluation of public postsecondary programs, is presented and is applied to a study of WINNERS (Women's Inner-City Educational Resources Service) with an analysis of the effects of the model on the program. The first chapter provides an overview of the MAUT approach, outlining 16 steps in the application of the model (such as study the organization and identify program goals). The second chapter describes WINNERS, including history, services provided, organizational structure, client profile, and ethical considerations in information use and dissemination. Chapter 3 examines eight goals that were generated and reports on WINNERS clients who were surveyed about their experience with the program. Extensive tables and charts measure goal attainment. The Bayesian model, which allows for the inclusion of new information in the analysis process, is explored as it is applied to analysis of each of the MAUT goals in chapter 4. The final chapter evaluates the evaluation, including the implications of MAUT and its impact on public programs and their personnel. Appended are an example of a WINNERS newsletter and the goals of the funding agency. (PHR)

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ED175338

Final Report

Alison Bernstein

A Bayesian Approach to the Evaluation of FIPSE Programs:

Women's Inner-City Educational Resource Service

Grant No. G007604199

Principal Authors

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with

John Murphy and Susan Piotroski

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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WINNERS staff -- Miriam Benjamin, Deahdra Butler, Susan Greenberg, Carolyn Lee, Lesola Morgan, and Carrie Willis -- whose commitment to improving the lives of low-income women has affected me deeply. It is no wonder that I have fallen in love with the place, its mission, and its people.

Shalom Saar
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ABSTRACT

Evaluation research in social policy and public programs is crucial. Apart from accountability to the legislator and the public at large, evaluation research provides practitioners and policy makers with accurate, relevant, and timely information. Although evaluation research has resulted in the development of various workable methodologies, most have proved inadequate for the needs of practitioners, especially at the local level.

I based my formulation of this alternative model on four major premises. First, evaluation should be part of a program's planning processes, and should take into account the complex and multiple goals of the various groups involved in the program. Furthermore, by specifying the goals of the various groups, the evaluation better reflect the interaction among these groups and expresses more accurately their values and concerns. Thus, the evaluation provides information not only for the funding agency, but also to other groups that have a stake in the program.

Second, evaluation is most useful when the information gathered is relevant to the needs of practitioners, especially at the local level. Local programs have historically been misjudged and misrepresented by evaluators. Therefore, the choice of what is to be evaluated and what outcome measures are to be used should be

the decision of the evaluation users at all levels of the program, and not a choice controlled by the evaluators themselves.

Third, evaluation should not be used as a punitive tool against public programs. Rather, it is a system designed to help practitioners and social reformers improve their programs; it is a means toward planned social change.

Fourth, the evaluator plays an active role in assisting practitioners and social reformers to increase the effectiveness of their programs. The evaluator's interaction with the program, its staff, and its clients is necessary to foster mutual understanding and cooperation, without which the evaluation cannot succeed. Thus, the evaluator not only provides analytical skill but also communicates a sense of social responsibility.

On the basis of these four premises, and with the use of Multi-Attribute Utilities Theory (MAUT), an alternative model for the evaluation of public programs is developed and described. Operational and methodological considerations are discussed. The model is developed as a generalizable paradigm, rather than one that is applicable only to a specific situation.

Following this discussion of the model, three chapters are devoted to a study of WINNERS (Women's Inner-City Educational Resource Service).

The final section of the study analyzes the effects of the model on the program and discusses the consequences of the evaluation, observed during the field work. Although the analysis is based on a specific site, generalizations can be made about the valuable potential of evaluation research to bring about planned social change.

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CHAPTER I

MULTI-ATTRIBUTE UTILITY THEORY

OVERVIEW OF THE MODEL

The MAUT-Bayesian method has been developed in response to the multi-faceted complexity and diversity of human services delivery programs and the decision making associated with such programs. By relating the evaluative information to the multiple and diverse goals and values of the program environment, this evaluation approach attempts to provide not only knowledge about programs, but also an analysis which can clarify to administrators and other decision makers the extent to which these goals and values are being attained, thereby improving decisions regarding both planning and allocation of resources.

Decision theoretic approaches to evaluation consist of two major parts. The first is the use of multi-attribute utilities in order to explicitly and formally determine the goals of all decision-making groups. The goals of each group are individually rank ordered and weighted by the group. When funded programs are being evaluated, the goals of the funding agencies are always included in the ranking process. The decision group might be interested in collecting data in order to judge decision alternatives (e.g., group counseling vs. individual counseling), or it might wish to determing the extent to which the existing program is attaining its goals on a periodic scale. Thus, instead of evaluating alternative decisions, it might aim at evaluating the progress of the program periodically.

The second part of the decision theoretic approach to evaluation is concerned with the revision of prior beliefs about goal attainment, as a result of the data collected. The major question that the MAUT approach attempts to answer is the extent to which the program maximizes each set of objectives.

The MAUT approach can be adapted to complex settings where there are many actors and multiple participating groups, and also to simpler settings where there are few participants. The approach makes it possible to provide information simultaneously to government funding agencies, to program directors, and to program participatns so that all these groups can revise their decisions about the programs. It provides the means by which programs can be continuously tailored to meet the objectives for which they were designed. Personnel and instruction can be modified to make programs more effective. By providing timely and relevant evaluative feedback, the MAUT approach can improve the process of decision making.

When an evaluation is conducted using the MAUT-Bayesian paradigm, each decision-making group involved in the evaluation is allowed to be explicit about its goals for the program. These goals are rank ordered and importance weighted by each group separately. These weighted goals are then used to evaluate various programs already operating or being planned. As empirical evidence is collected, Bayesian statistics are used to revise decision makers' inferences, predictions, or expectations about the extent to which programs are meeting their various goals. This approach allows frequent or continuous feedback, so that programs can be modified in the light of data collected.

In order to affect a decision, the information gathered must be clearly relevant to the goals and values of decision makers and the program. By quantifying the goals and values, the MAUT approach can ensure that data related to more important goals are given greater importance in judging the overall outcome of the evaluation. By emphasizing the aims of a particular program, it precludes the application of irrelevant criteria in the evaluation. It also develops and shapes the instruments for data collection.

The MAUT approach, unlike other models, is data inclusive. It can accommodate experimental data and take into account such factors as opinions of experts, attitudes and impressions, and other qualitative information.

One of the most noticeable advantages of the MAUT approach is its contribution to better planning. It allows for multiple measurement of goal attainment. As was indicated earlier, the goals of a special program are often complex and can be measured in a variety of ways. The MAUT approach incorporates this complexity; diverse measures can be combined to yield a single utility, thus avoiding conflicts over the choice of a measure. In addition, the MAUT provides continuous feedback for making decisions as the need arises; unlike other evaluation methodologies, one does not need to wait until the evaluation study is completed.

THE ACTUAL USE OF THE MAUT

Although the model was originally designed in 1973 by Edwards and Guttentag, some modifications were made as a result of experience accumulated in the field. The following presents a general description and rationale for each step included in the implementation of MAUT.

Step 1: Obtain the Support of Program Officers for the Evaluation Study

This is the most important task that the evaluator must accomplish. Without the support, cooperation, and participation of the program staff in the evaluation effort there is little hope for a successful evaluation. This is especially true for the MAUT method. Since this approach is based on the full cooperation of all members of the staff, considerable time and effort must be devoted to establishing a rapport between the evaluation team and the staff before the actual evaluation activities begin. In this preliminary stage it is essential to explain the model to the staff and to show how the information obtained can be used to improve the planning and delivery of their services.

Step 2: Study the Organization

In order to improve the evaluator's effectiveness of the site, it is important that he study the history, the people, and the structure of the organization. Since the MAUT-Bayesian approach requires the cooperation of all members of the program, it is imperative that the evaluator spend time listening to the various groups and individuals in the organization. He should become familiar with the site and should assure members of the program that evaluation is not a punitive process but rather a planning tool which can improve the quality and efficiency of their work. In providing this reassurance, the evaluator can reduce some of the anxiety and suspicion on the part of the program members. It is essential that he refrain from making judgments, and he should not align himself with any one group or with any specific strategy.

Step 3: Identify the Persons or Groups Whose Goals are to be Generated

In order to avoid "top-down" assessment, the evaluator should identify all groups having a stake in the program. This includes policy makers in the funding agency, program directors, adminstrators, staff, and clients. The identification of these groups is not difficult; a few days spent on the site should enable the evaluator to become familiar with the organizational network and the various groups and individuals. These groups have different interests in the program: a policy maker from the funding agency might focus his attention on issues such as budget expenditures and political visibility, while the program director might be more concerned with local issues such as attendance rate, staffing, and clinical methods. By permitting each group to participate in the evaluation, it is possible to obtain a detailed and comprehensive picture of the program.

Step 4: Identify Program Goals

Accomplishment can be measured only if goals are set. Therefore, the identification of goals by each group or individual is one of the most important stages in program evaluation. A meeting with the program director, staff, or clients should be arranged in advance. During this meeting two things should be accomplished.

First, there should be a "brain-storming" session, during which an exhaustive list of goals is generated. The evaluator should make no suggestions, but instead should initiate and mediate discussion among the participants. The goals should be listed as they are suggested, and should be recorded in wording as close as possible to the original suggestion. The entire list of perceived goals should be written on large posters and displayed for everyone to see.

Secondly, the goals should be refined and the list condensed to a manageable size; overlapping goals should be combined. This should all be done with the general agreement of the group, and the evaluator should ensure in each case that the meaning and intent of the original goal are retained. At this stage, each group should exchange its list of goals with other groups. In cases where the organization is small in size, representatives from each group can meet together to combine the various lists into one list which best expresses the goals and objectives of the program as a whole. If there is disagreement among the groups, and it proves impossible to draw up one main list of goals, then the lists of the individual groups should be treated separately.

Step 5: Rank Goals in Order of Importance

Given that resources are inevitably limited, it is natural that no organization will be able to accomplish all its goals. Some goals are more important than others; some are short-run and other long-run goals. In order to channel resources to the more important objectives, assigning priorities to the goals is the major aim of this stage of the evaluation. Group members should be asked to rank the goals, from least important to most important; it is recommended that this be done by each group as a whole, or, in the case of one main list, by representatives from each group. The ranked order of goals should reflect the general agreement of all groups. If there is disagreement during this stage, then individual opinions should be elicited.

Step 6: Assign an Importance Weight to Each Goal

To do this, the evaluator should start by arbitrarily assigning the least important goal an importance weight of 10. The individual or group should then assign an importance weight to the next-least-important goal: how many times more important (if any) is it than the least important? This process should continue through the total list of goals. Thus, if Goal A is assigned a weight of 20, while Goal B is assigned a weight of 80, it means that Goal B is four times more important than Goal A. Members of the group should be cautioned not to assign extremely large importance weights; heavily weighted goals will tend to dominate and to reduce the impact of the other goals. However, if the group feels that a goal really deserves to be heavily weighted, then the group's wishes should be followed (see ranked goals of WINNERS).

Step 7: Normalize the Importance Weights

This step involves a simple computation in which the importance weights are summed up; then each importance weight is divided by the sum and multiplied by 100. This allows the normalization of the importance weights by distributing them on a scale of 0-to-100. Importance weights are thus converted into numbers that, mathematically, are rather like probabilities.

Step 8: Develop the Measures

To increase the participation of the various groups involved in the program, and to increase the chance that the evaluation outcome will be acceptable to program members, it is recommended that measures be elicited from the groups. Once the goals have been ranked and weighted, each individual should be asked to suggest possible measures that would best reflect the attainment of each goal. If they wish, individuals may generate these measures as a group. An effective technique is to mail a copy of the list of goals to all the members of the group and ask them to devise measures for each goal on their own. Here the evaluator must play a more active role and help the group by suggesting possible measures that are appropriate to the goals. For example, if one of the goals is to "help adult women continue their education," the group with the evaluator might suggest the following measures for evaluating goal attainment:

(1) Average number of clients served.

(2) Percentage of clients actually enrolled in educational programs.

(3) The extent to which the clients are satisfied with the services.

Since resources for measuring goals are limited, the evaluator should in general select no more than 15 goals and no less than 8 goals. As a rule of thumb, goals selected should represent at least 70 percent of the total importance weight. Goals which are not included in the top 70 percent but which may be easily measured should always be included.

Step 9: Assign an Importance Weight to Each Measure

In general, each goal is measured by a number of measures and therefore some measures might be more important than others. If the group feels that all measures are equally important, then the total number of measures should be divided by 1.00. In the earlier example, each measure should have a relative weight of .33 (1.00:3 = .33). If the group decides that Measure A is twice as important as Measure B and six times more important than Measure C, the distribution will be as follows:

Measure A = .60

Measure B = .30

Measure C = .10

In choosing evaluation measures, some of the following guidelines can be useful:

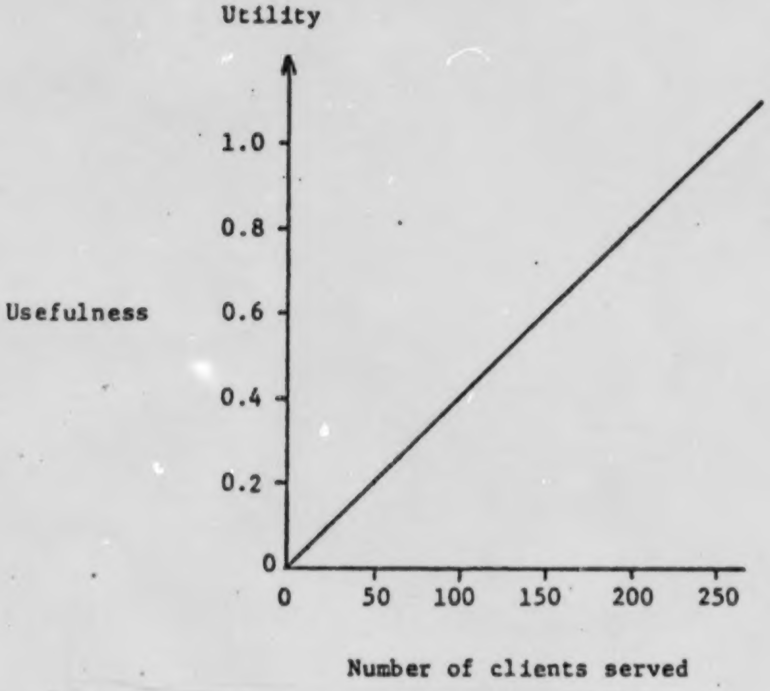
(1) Measures should be keyed to the goals.

(2) Simple measures are preferable to complex measures.

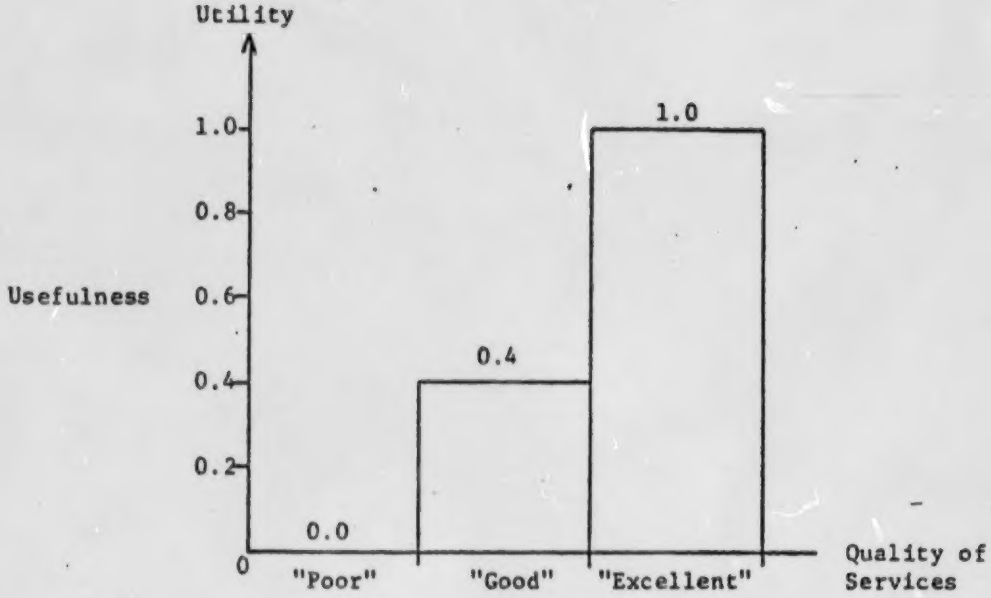
(3) The cost of obtaining the information must be reasonable in terms of its value.

Step 10: Determine the Value of Each Measure (Utility Function)

The next step is a technical one in which the evaluator helps the project director and staff to determine the value (utility) of each possible outcome of each measure associated with a specific goal. Utility is defined as a subjective numerical measure of the value of an act to a decision maker. The question to be answered is: "If a particular outcome is observed, what is its value to the decision process in achieving the specific goal?" The procedure should be administered in the following way. The group or the individual should be asked to provide the evaluator with the widest possible range of values expected from Measure A. Suppose that the group or the program director believes that the largest reasonable range is from a minimum of clients served per month to 200 clients. This range can be displayed on the x-axis of the utility distribution. The y-axis for the utility function is from 0.0 to 1.0, from useless to maximum usefulness. In order to draw the utility curve, the individual or the group should provide the relative value of various specific outcomes. For example, the decision maker might decide that for Measure A (average number of clients served) the value (utility) of having 0 clients served per month is zero, for 50 clients it might be 0.2, 0.4 for 100 clients, 0.6 for 150 clients, 0.8 for 200 clients, and maximum utility for 250 clients. By drawing these different values the evaluator can graph the utility function of the outcome being measured:



Categorical measures are used, such as "clients' satisfaction with the services," in which the clients are asked to rate their response as "poor," "good," or "excellent." The group should then determine the relative value of each category on the utility scale. For example, if the group determines that "poor" response by clients has no usefulness, "good" has about 2.4 usefulness, and "excellent" has a maximum of usefulness, the utility function can be graphed in the following way:



Step 11: Specify Decision Alternatives

Since decision analysis assists decision makers in selecting among possible plans of action, the decision group has to specify strategies for maximizing positive outcome for their program. For example, if the group wishes to evaluate two major strategies for "helping low-income women to continue their education," the first strategy uses community-based resource centers while the second uses university-based centers. Given the goals of the program and the evaluation measures chosen, the evaluation will provide the decision group with information on both strategies. The purpose is for the evaluation to determine which strategy best maximizes outcome. A matrix can be developed to display the goals and their importance weight and the strategies being evaluated. By calculating the expected utility on each goal for each strategy, the total utility can be computed across goals. This then provides decision makers with relevant information about each strategy and enables them to determine which one produces the largest outcome (Σ utility).

Goal Weights Strategies	30 A	25 B	20 C	15 D	10 E	Σ Utility
Community-based operation						
University-based operation						

If the decision group is not interested in evaluating decision alternatives, but instead wants to evaluate its current performance (all services) against future performance, then the matrix should have no decision alternatives of strategies, but instead periodical evaluation.

Goal Weights	A	B	C	D	E	Σ Utility
Fiscal Year 1977-1978						
Fiscal Year 1978-1979						

Step 12: Determining Data Sources

At this point, the decision group should identify all possible sources for the data collection. These might include existing records, various agencies, clients, etc.

Step 13: Developing Instruments for Data Collection

Having identified the measurement sources that could be used to review and report on goal attainment, the evaluation should develop a set of measures. These instruments should be as diversified as possible in order to generate a comprehensive information about the program. They may include interviews with specific individuals, questionnaires to groups of people who have contact with the program, observations, telephone surveys, and reviews of existing files and records.

Step 14: Elicit Prior Probabilities for Each Measure

The probability of an event is the quantification of uncertainty. Probability values represent a person's degree of belief that various events will occur. The source of this belief can be based on the previous experience of decision makers or by requesting their information from an expert (such as the weather forecast in our example). There are some important rules regarding probability theory. First, probabilities must lie in the range from 0.00 through 1.00. Second, once an exhaustive set of mutually exclusive outcomes is defined, probabilities are determined for each outcome; these probabilities will be in the range from 0.00 to 1.00 and they must add up to 1.00.

Often a certain amount of information already exists prior to a formal evaluation of the achievement of a project, relative to its goals. The MAUT-Bayesian evaluation model provides for the inclusion of this information in order to improve the accuracy and usefulness of the results. The evaluators spend some time helping the decision group to determine their prior probability distributions on outcomes of the measurement activities. There are two questions to be answered:

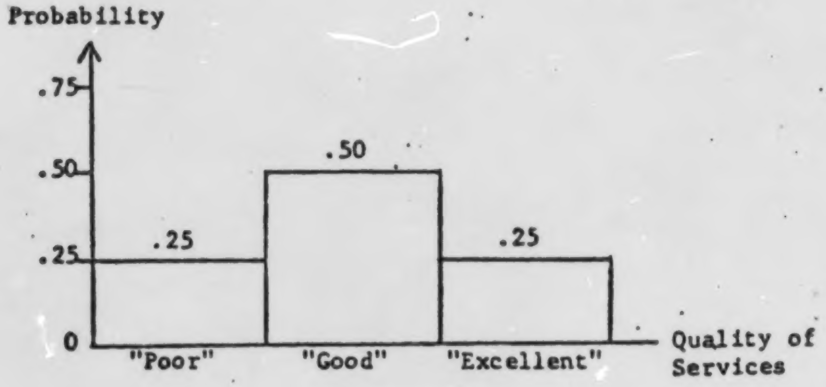
(1) What is your best guess as to the expected outcome of the measure?

(2) Between what values do you believe the outcome of the measure will fall, with 50 percent level of confidence?

In the earlier example of average number of clients served, the decision maker might decide that (1) his or her best guess for the most probable outcome on the measure (dependent variable) is 80 clients per month and (2) with 50 percent level of confidence that the number of clients served will be between 100 and 60 clients. This information serves as the subjective prior belief of the decision maker, which later in the analysis will be combined with the data to produce the posterior probability.

The decision maker could provide the evaluator with the most probable value of the outcome (dependent variable). For example, the decision maker might estimate that the most probable value of client visits per month is 80.

For categorical scale, the decision maker should distribute the total probability of 1.00 over the total number of categories. In the earlier example, the probability distribution might be .25 for getting "poor" on clients' rating of the service, .50 for "good" and .25 for "excellent." This can be graphed in the following way:



In cases where it is too difficult to generate subjective priors, or when the decision group opposes this technique, one can use what is referred to as data-based priors. In this case no subjective prior is generated. Instead, the information gathered from the data collection process serves as the principle factor, and this can be used as the prior for the second cycle of the evaluation.

Step 15: Administrating the Data Collection Process

Based on the information requested by the decision group, the evaluator should design and administrate the process of data collection. As in any other evaluation, the evaluator should ensure that (1) the information collected can be transformed into numbers or quantitative data; (2) questionnaires are well thought out; (3) the language is clear and not offensive; (4) an appropriate sampling procedure is used for questionnaires and interviews; (5) a procedure is determined for administering the data collection instruments; and (6) a procedure is specified for coding and scoring the data collected.

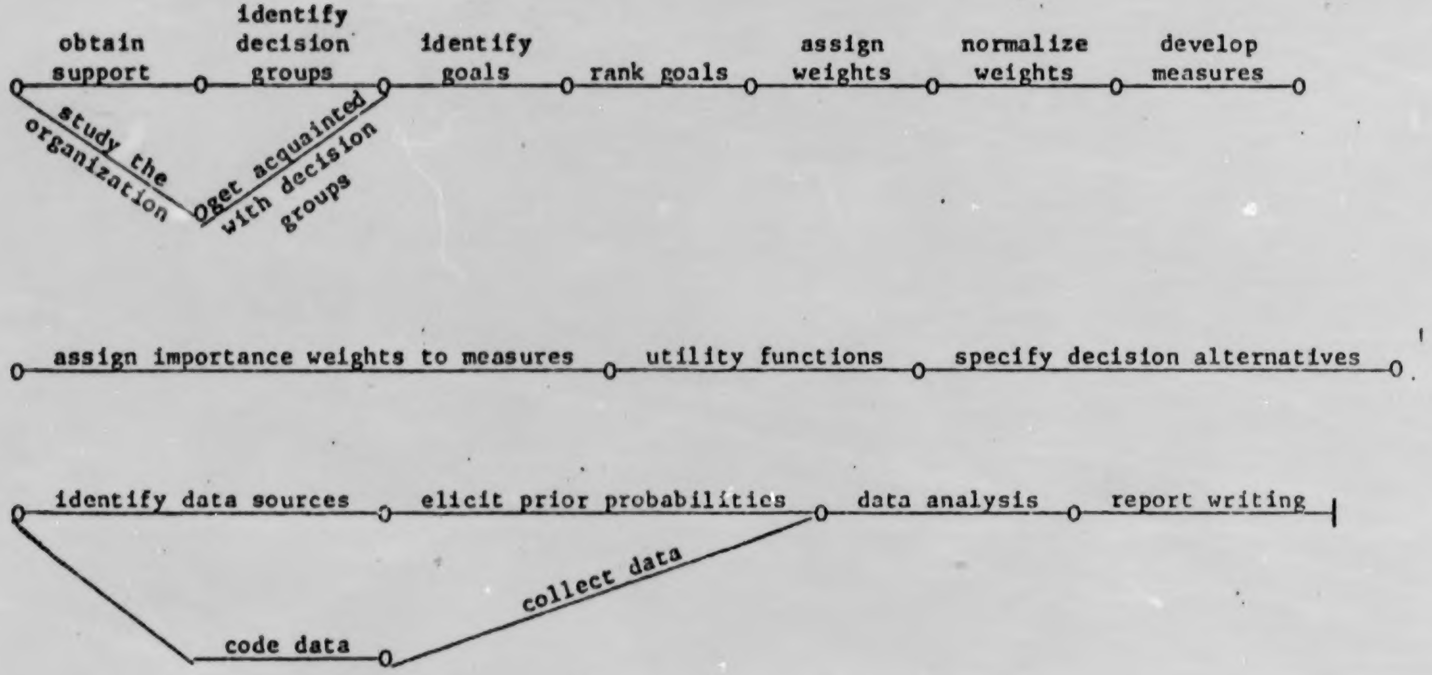
Step 16: Analyzing the Data Using Bayesian Statistics

Once the data is collected the analysis follows, and is conducted through the use of Bayesian statistics. The Bayesian model makes it possible for the data to be combined with the subjective prior probability. The result is an expected utility reflecting the combination of the subjective estimates and the empirical evidence bearing on the program's performance, with respect to its goals. (A complete discussion of the data analysis for the study under consideration here will be presented in Chapter Five.)

The steps described in this chapter are the product of the original model and of experience accumulated in the field. The most important element in the use of the MAUT paradigm is effective communication. The evaluator must speak clearly and concisely to the decision group, avoiding statistical terminology as much as possible. Program practitioners will become more involved in the evaluation, and will be more enthusiastic, if each stage in the process is explained clearly and simply. Program people should understand that the evaluation is not meant to be judgmental or punitive, but is instead a means toward improving services and planning; the evaluator is responsible for explaining this to all members of the program. An open, cooperative, and mutually supportive relationship with program members is essential, and the development of such a relationship depends directly on the evaluator's intuition and sensitivity. Thus, the role of the evaluator is crucial to the success or failure of the evaluation.

FIGURE I-1

SCHEMATIC OUTLINE OF THE MAUT PROCESS


obtain support
identify decision groups
identify goals
rank goals
assign weights
normalize weights
develop measures
study the organization
get acquainted with decision groups
assign importance weights to measures
utility functions
specify decision alternatives
identify data sources
elicit prior probabilities
data analysis
report writing
code data
collect data

CHAPTER II

THE WOMEN'S INNER-CITY EDUCATIONAL RESOURCE SERVICE (WINNERS)

INTRODUCTION TO WINNERS

In the last decade the federal government has implemented two social policies in the area of post-secondary education that have significantly increased educational opportunities for minorities. The first policy increases financial aid to low-income students and offers substantial subsidies to low-tuition institutions. The second policy has modified traditional admission regulations. Lowering the admission criteria of some colleges has made possible the enrollment of scores of students who otherwise would not have been admitted. Moreover, the provision of funds for "special programs" to recruit and retain students from minority groups has also influenced the admission of minorities to higher education. The Special Service Program is a case in point. This federally funded program, approved under the Higher Education Amendment of 1968, was directed toward retaining economically disadvantaged students once they had been accepted into a college or university.

Because these programs originated through political channels they were not well adapted to the educational system. They were poorly planned and had serious shortcomings. Students from low-income backgrounds were often older than the average college student, and many were war veterans; they lacked the necessary skills to succeed in terms of academic achievement. Their lack of familiarity with the educational system and its demands resulted in a high dropout rate. In response to growing criticism regarding the effectiveness of these special programs, the Secretary of HEW established the Fund for the Improvement of Post-Secondary Education (FIPSE). The major goal of the Fund has been to provide financial assistance to educational institutions and community organizations for a broad range of reforms and innovations in the area of post-secondary education, especially adult education. The amount of financial assistance awarded is based on proposals submitted to the Fund. Serious consideration is given to any proposal that addresses itself to one or more of the following educational issues:

(1) The continued exclusion of working adults, minorities, the handicapped, and other categories of people, from opportunities for furthering their education.

(2) The growing high rate of attrition of minority students from institutions of post-secondary education.

(3) An inadequate understanding of the means by which performance in education can be measured, and the lack of valid and reliable data concerning the quality of education.

(4) The lack of congruence between the skills and knowledge taught in schools and the needs of the individuals attending them.

(5) The need for improving the quality of instruction and for diversifying educational programs to meet individual needs and environmental changes.

(6) The isolation of the educational institution from the community.

(7) An inadequate system of information and resource centers for people trying to choose an institution best suited to their interests.

One of the sites that received a three-year grant from the Fund is the Women's Inner-City Educational Resource Service (WINNERS), located in Roxbury, Massachusetts.

HISTORY

The Women's Inner-City Educational Resource Service (WINNERS) was born as a result of a one-year research project which was conducted in 1971-1972 and supported by a grant from the John Hay Whitney Foundation in cooperation with Jackson College of Tufts University. The project was entitled The Boston Area Study Group on Continuing Education for Urban Women.[1] The goal of the study was to assess the needs of adult inner-city women who were entering higher education programs in the Boston area.

The research detailed the conditions of women in the Boston area and provided the conceptual framework for the inception of WINNERS. The study stated that, according to the Women's Bureau in the Department of Labor,[2] 25.5 percent of all Boston households are female-headed families, of which almost 60 percent are at or below the poverty level. The number of women unemployed was recorded to be above 13 percent. This figure included only those women actively seeking employment, leaving uncounted those women at home for whom employment was impossible. The problem is much worse in areas such as Roxbury, Dorchester, Mattapan, and Jamaica Plain. Unemployment runs very high and underemployment of women is very common in these areas. Although the study found that women make up 43 percent of the work force, they are usually poorly paid and doing low-level clerical and service work. The case is very serious for minority women who earn the lowest wages in the labor force. The high school dropout rate in communities like Roxbury and Dorchester is still very high, indicating a large number of people who are at a serious disadvantage in seeking employment.

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[1] The Pre-Conference Report of the Boston Area Study Group on Continuing Education for Urban Women, published by Tufts University and the John Hay Whitney Foundation (February 1973).

[2] "Facts on Women Workers and Minority Races," revised, published by the Women's Bureau, Department of Labor (May 1975).

Women, especially, are at a disadvantage. Despite the growing force of the women's movement and its substantial impact on women's education and their status in American society, it has not addressed itself to the needs of black women and women of other minority groups. Since the women's movement emphasizes personal freedom and changing domestic relationships,[3] a large number of low-income and working-class women have been isolated.

According to a report of the American Council of Education published in 1975, adult women now constitute the fastest growing group on college campuses. The report estimates that by 1980, among all students of both sexes enrolled in institutes of higher education, there will be more who are over age 21 than under 21.[4] Furthermore, the emphasis is slowly changing from traditional two- and four-year liberal arts curricula to a more comprehensive concept of post-secondary education, which includes specific career and vocational preparation for students of all ages. The proportion of students in two-year and community colleges who are enrolled in vocational courses is now almost 50 percent, and many four-year colleges are integrating undergraduate and graduate training in such professions as law and medicine.[5] The pressures of increased numbers of career-oriented adults on campus are being felt in such reforms as work-release for job-related education, credit for life experience, internships, and experimental degrees.

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[3] "Sexism and Racism," Civil Rights Digest, a quarterly published by the U.S. Commission on Civil Rights (Spring 1974).

The Boston Area Study Group identified serious deficiencies on the part of most of the colleges and universities in the Boston area. They are as follows:

(1) No comprehensive information on opportunities that are available and relevant to the urban, woman student.

(2) Lack of understanding, empathy, and experience with the needs and potential strengths of adult, inner-city students.

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[4] American Council on Education, report (1975).

[5] Lazerson and Grabb, Harvard Education Review (November 1975), p. 454.

of minority women to post-secondary institutions does not guarantee successful completion or graduation. Furthermore, lack of information about college and training programs on the part of low-income women, and their anxiety associated with attending college, could impair the successful implementation of policies aimed to improve the educational level of these women. The rationale was simple: post-secondary education for minorities can be successful if supportive services are provided. WINNERS' perception of its role can be stated in the following way:

(1) Minority women need a community-based center operated by community women.

(2) The staff must be experienced in counseling and well informed about all educational programs and institutions, in order to make successful referrals.

(3) The counselor must build an effective relationship with the client in order to be able to assess her needs and objectives.

(4) Once an appropriate program has been identified, the counselor aims to provide all the information and assistance necessary for applying.

(5) Financial aid is naturally one of the major concerns for clients. Providing information about financial sources and assistance in filling out the various forms is crucial.

(6) For the client who has been admitted, WINNERS provides tutorials, skill-building workshops, and further counseling. The adjustment which is demanded of many women who decide to attend school is very complicated. Transportation to school, child-care arrangement, part-time work, and responsibilities in the home are some of the major constraints which can create discouraging obstacles.

(7) The counselors and the university liaison person provide advocacy services for any WINNERS student. This may involve the intervention of the counselor on the part of a student who needs help in dealing with institutional red tape or mistreatment.

Counseling

Counseling has been the primary mission of WINNERS. With a staff of four counselors, WINNERS provides educational counseling, placement, and assistance in obtaining financial aid. Almost half of the referrals are made to colleges and universities. The next largest number of referrals is to junior and community colleges. Other clients are referred to various vocational training programs; these include apprentice programs for skilled workers, and for health and secretarial and personnel. Recently there has been a growing number of clients referred to GED programs at various locations in the City of Boston. The colleges most frequently chosen by clients are Boston State, Boston University, Northeastern, and the University of Massachusetts at Boston. Graham and Newbury are the most popular junior colleges. Bunker Hill Community College and Roxbury Community College receive a large number of referrals for community colleges.

Financial Aid

Financial aid is a major concern for most of the students seeking assistance from WINNERS. The counselors aid the clients in filling out school financial aid forms when they apply for admission.

The forms most commonly used are the Student Financial Statement (SFS), Parent Confidential Statement (PCS), Basic Educational Opportunity Grant (BEOG), and Massachusetts State Scholarship forms. Counselors also search for special-purpose scholarships for which some WINNERS' clients might qualify. Examples of these are scholarships for minority group members and for those belonging to particular religious or ethnic groups.

In order to keep abreast of changes in the types of financial aid offered by colleges and by federal and state agencies, members of the counseling staff attend financial aid workshops. The university liaison person also meets periodically with financial aid officers at the various institutions.

To make more effective use of its small counseling staff, WINNERS made some changes in its method of providing financial aid guidance. It was found that group workshops were more effective than individual sessions. Each workshop is administered by a single counselor with a maximum client participation of twelve. The workshops are approximately two hours long and focus on a single financial aid form, such as the Basic Educational Opportunity Grant, with one member of the WINNERS staff working through a sample form while the clients follow through on their individual forms. This newly tried method has proven effective in helping applicants to complete financial aid forms, and provides the counseling staff with more time to help their clients with individual problems.

Tutorial Program

The tutorial program was established in the fall of 1976. Its aim is to assist clients in acquiring the basic skills required of high school students. This includes courses in math, English composition, English grammar, and American history. The courses are offered in the evening, three times a week. Tutors are recruited on a voluntary basis and they come primarily from the Roxbury community, although occasionally a board member will also volunteer. WINNERS attempts to keep the classes small so that the tutor can provide individualized teaching. On the average, class size is between five and seven students.

Skill-Building Workshops

This innovative program was instituted in August 1976, and was a result of counselors' assessment of clients' needs. Some clients are not equipped with the basic skills necessary for adequate academic performance. Many of them have difficulty in writing term papers or taking notes during lectures. In its attempt to meet its clients' needs, WINNERS has developed periodic workshops designed to improve basic academic skills such as reading comprehension, communication skills, library usage, note taking and paper writing. These workshops are taught by experienced teachers and are attended by a large number of clients.

University Liaison

The university liaison person establishes and maintains contact with colleges and universities. WINNERS hopes to make itself known throughout the educational community, and to continue to provide its services to clients who are attending school. WINNERS has been able to sign agreements with two colleges in the Boston area. Under these agreements, WINNERS promises to provide counseling services for adult students who need assistance with career planning, personal concerns, and academic difficulties.

In August of 1976, in collaboration with the Northeastern University Dental Assistance Program, WINNERS received a grant from the State Department of Occupational Education to conduct an innovative pilot program. Under this program, WINNERS undertook to prepare 20 low-income, inner-city adults to enter the Northeastern University Dental Assistance Program in January of 1978. WINNERS provides the following services: screening candidates, providing them with counseling services, and offering them skill-building workshops in reading comprehension, English, and typing. While they are enrolled at Northeastern, WINNERS will continue to provide counseling for the trainees, as well as individualized tutorial assistance when needed.

Publication and Information Dissemination

WINNERS has published two editions of the Urban Women's Guide to Higher Education as a service to all adult students in the Greater Boston area. This directory of post-secondary opportunities for adult women students has become a primary resource for colleges and university personnel and programs, as well as for individual women. The Guide lists over 55 post-secondary programs and related services relevant to urban women in the Boston area. It answers the kinds of questions not addressed in college catalogues, and is written in language which is readily understood. In addition, the Guide contains over 60 pages of counseling essays on the best ways to go about choosing a program, getting admitted, obtaining financial aid, arranging for day care both on and off the campus, and acquiring study skills. The Guide has been distributed to educational institutions and to community agencies, and is frequently requested by individual potential students.

In addition to the Guide, WINNERS publishes a bi-monthly newsletter which is distributed to all of its present and former clients.

ORGANIZATIONAL STRUCTURE

The WINNERS staff consists of seven full-time employees and two part-time employees. These are as follows:

(1) Executive Director — responsible for the day-to-day operation of the program and its financial status; reports directly to WINNERS' Board of Directors.

(2) Development Officer — responsible for the overall development of the organization.

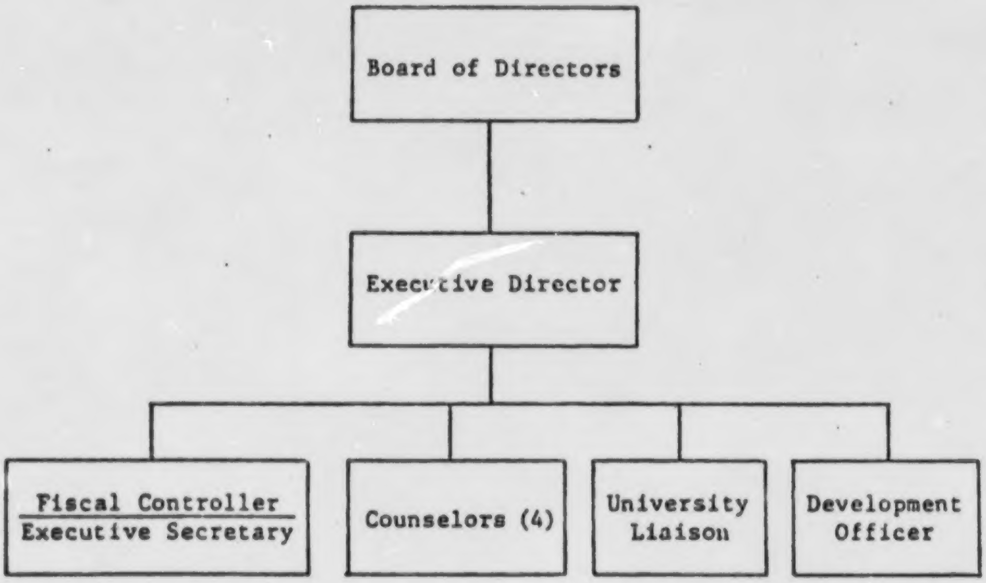
(3) Executive Secretary — responsible for the overall clerical operations of the organization.

(4) Fiscal Controller — responsible for the financial operation of the organization.

(5) University Liaison — maintains contact between WINNERS and the higher education institutions and the counseling staff; assists with the overall function; and serves as WINNERS' representative on the Council for Higher Education for the Urban Woman.

(6) Counselors — three full-time counselors and one part-time counselor who function on a one-to-one basis to assist adult, inner-city women in the development and implementation of their academic and career goals; they also act as advocates for the development, expansion, and upgrading of programs, and the sensitizing of institutions to adult women students.

FIGURE II-1
ORGANIZATIONAL CHART


Board of Directors
Executive Director
Fiscal Controller
Executive Secretary
Counselors (4)
University Liaison
Development Officer

DEMOGRAPHIC PROFILE OF WINNERS' CLIENTS

Sixty-seven percent of the clients served by WINNERS were referred by a friend. Sixteen percent were referred by various community organizations and by social agencies such as the local welfare office. About 4 percent of the clients came to WINNERS in response to radio announcements, 5 percent from notices in local newspapers, and 3 percent from TV advertisements.

The flow of clients varies. Some clients visit WINNERS almost once a week over a period of a month. The frequency is higher when deadlines for applications are approaching. During the counseling process some clients change their minds and do not return. Others investigate possibilities on their own.

A client case is closed when the counselor believes that services are no longer needed, since the client is attending school and does not require additional assistance. A case may also be closed when the client cannot be located.

Career Choice

Out of 83 responses to a questionnaire sent to 360 WINNERS clients, it was found that 66 percent of the clients had a career choice in mind when they came to WINNERS. These choices were the following:

54 Health (nursing)

41 Education (physical education, teaching, etc.)

29	Human services (social work, personnel, etc.)
28	Business (bookkeeping, management)
20	Cosmetic and fashion (hair dresser, beauty care, etc.)
26	Continuing education (i.e., general education)
12	Communication (broadcasting, journalism)
11	Arts
7	Electronics
5	Photography
4	Urban planning

Out of the total clients who had no career choice, 31.3 percent believed that WINNERS counselors were helpful in making a career choice. The data also indicate that a small percentage of the clients changed their prior career choice as a result of WINNERS (12 percent). Most of the clients strongly felt that WINNERS was very helpful in pursuing their career choice. Once enrolled in the school of their choice, 61.4 percent felt that their expectations about education were met. 22.9 percent responded negatively, and 8.4 percent made no response. Difficulty in obtaining financial aid was the major reason indicated by those whose expectations were not met. Other reasons included lack of day-care facilities (9.6 percent), boring classes (7.2 percent), schools too far from home (6.0 percent), and difficulty of courses (5 percent).

Over three-fourths of the clients who responded to the questionnaire stated that WINNERS was very helpful in obtaining financial aid, and about 60 percent said that they could not get this help elsewhere (25 percent answered "don't know"). The majority of the clients felt that WINNERS was an important and valuable experience in their lives. The following reasons were cited:

(1)	It provided an opportunity for education	(45.8%)
(2)	It provided an opportunity to meet others	(15.7%)
(3)	It helped to get off welfare	(12.0%)
(4)	It assisted in making career choice	(20.0%)

Age, Marital Status, and Place of Residence

From an examination of WINNERS records (a sample of 350 out of 2,500 available records), the following demographic profile of WINNERS' clients was developed.

Fifty-seven percent of the clients served are between the ages of 21 and 30. These women tend to have young children. Above the age of 30, the proportion of clients in each age group declines: 12.5 percent in the 31-35 category, 4.4 percent between 36-40, 2.2 percent between 41-45, 1.1 percent between 46-50, and 1.2 percent above the age of 50. Many of the women over 30 are already employed and are interested in upgrading their skills for advancement in their present occupation. Others want to change their field, sometimes because they find themselves in dead-end positions.

Twenty-one percent of the total client population are under the age of 20. This is partly explained by the number of students who come to WINNERS for assistance in finding summer or part-time employment. Others are already attending college but may want to transfer to another school or explore financial aid sources for continuing their education.

Only 15.4 percent of the women are married; the majority (60.3 percent) are single, 15.7 percent are separated, and 8.3 percent are divorced. This is an important piece of information, indicating that most WINNERS' clients are not seeking secondary employment but instead are the primary bread-winners in their families.

The majority of the clients come from Dorchester (32.3 percent), Roxbury (21.5 percent), and Boston (21.3 percent). Other communities served by WINNERS are Mattapan (10.5 percent), Cambridge (3.9 percent), and Jamaica Plain (2.8 percent).

Educational Background

Data or educational background indicate that 6.8 percent of the client population have had no high school education, 22.5 percent have had some high school, and 70.7 percent have high school diplomas. Approximately 27 percent of the clients have had at least some college, and 7.8 percent have completed two- to four-year college programs culminating in Bachelor of Arts or associate degrees.

An interesting phenomenon was observed when level of education was cross-tabulated with employment. It was found that out of the

32.3 percent who were employed before coming to WINNERS, 18.4 percent had had no college education, 10.9 percent had completed some college, and only 3.1 percent had a college degree. The explanation may be that the small percentage of college graduates who come to WINNERS were considering further education in order to improve their qualifications for employment, or they simply were not looking for a job. Roxbury and Dorchester had the highest proportion of clients who were not employed; clients from these communities also had relatively less education than those from other communities in the Boston area.

During its five years of existence, WINNERS has been recognized as a community organization aimed to assist women in becoming self-sufficient. Its importance and vitality were recognized not only by its founders and clients but also by FIPSE, which agreed to support it for its fifth year, even though the Fund does not ordinarily support any institution for more than three years. As funding from FIPSE will be terminated in June of 1978, the need for careful planning and for attracting funds from other sources is crucial. The evaluation is therefore highly instrumental and is seen as aiding the planning and management of WINNERS.

ETHICAL CONSIDERATIONS

Ethical considerations are always important in field evaluation. Two types of ethical issues are considered in this section:

(1) the protection of confidentiality, and (2) the ethics of information distribution. The latter issue is of importance in every type of evaluation, i.e., who gets what kind of information? It is, however, only in evaluations of the MAUT-Bayesian type that such ethical questions can be explicitly stated and formal answers can be found. This will be seen in the analysis.

Use of Confidential Information

For the evaluation of WINNERS, the evaluation team has had access to confidential information in files, records, and reports. When such information was used in evaluating particular goals, all necessary safeguards were taken to preserve the anonymity of subjects and sources. No one outside of the evaluation team was given access to this information. Frequently, information was coded by one member before it was presented to the rest of the team. Particularly sensitive information, when documented, was not allowed out of the room in which it was filed.

The Distribution of Information

In other forms of evaluation the typical pattern is that information is gathered and provided to the funding agency. Questions of the right of access to the information are not overtly raised. Rather, they come into play covertly, in the frequent reluctance of local program operators to provide information which they believe might be damaging to them. This underlies the oft-cited unwillingness to "cooperate with evaluations at the local level."

In the MAUT-Bayesian evaluation approach, this issue is directly considered. Each decision-making group has the opportunity to generate its own goals for the program. Then each group receives the evaluative information which is relevant to each of its goals. Naturally, at the local program level, there are many goals which differ from those at the federal level; they differ because of the perspective from which they are articulated, if not more basically. Evaluative information is collected which is relevant to the most important goals of each decision-making group at every level of the organization.

The following chapter focuses on the implementation of the MAUT paradigm in evaluating WINNERS' performance. Although not all WINNERS' goals were evaluated, the information collected for the 70 percent of the total goals' weight is still extremely useful for future planning.

CHAPTER III

GOALS AND MEASURES

Naturally, the idea of being evaluated was not immediately accepted by WINNERS. However, after many meetings with the Board of Directors and with the staff, it was understood that the major purpose of the evaluation was, in fact, to improve planning processes. FIPSE agreed, moreover, that no information collected by the study would be made available to the public without the prior consent of WINNERS. After explaining the evaluation methodology to the members of the board, the program director, and the staff, permission was granted for the study.

GENERATING THE GOALS

In accordance with MAUT-Bayesian method, a meeting with the program director and the staff was arranged. The primary goal of the meeting was to generate the goals and objectives of WINNERS. Because of the experimental nature of the study and the small staff of WINNERS, it was decided to have only one decision group. This would consist of the program director, a representative from the Board of Directors, the development officer, the university liaison person, and several counselors.

The decision group totaled eight people and met every Friday as part of the staff meeting. In the course of three sessions the group generated its goals, ranked these goals, assigned them importance weights, and developed multiple measures for each goal. Naturally, the group did not agree on every issue, but in the course of group discussions, the individuals were able to express their opinions, present differing viewpoints, and reach a consensus whenever it was necessary. Each session lasted from 9 a.m. to 4 p.m.

The response was extremely positive. In fact, the group felt that these sessions had provided them for the first time with an opportunity to articulate their common mission. Goals that were developed were agreed on by each member of the group. Moreover, two months after these group sessions, the list of goals generated was adopted as the major guidelines for planning the fiscal year of 1977-1978.

RANK ORDERING AND ASSIGNING IMPORTANCE WEIGHTS

The original list consisted of 29 goals (Table III-1). Reviewing this list, the group decided that some of the goals overlapped, and a revised list was generated consisting of only 20 goals (Table III-2). The goals are rank ordered from the most important to the least important. "Develop greater credibility with foundations and other funding sources" is the most important goal;

TABLE III-1

ORIGINAL LIST OF GOALS AS GENERATED BY THE STAFF OF WINNERS

1. Provide services on campuses as well as at WINNERS.
2. Develop greater credibility with foundations and funding sources.
3. Make the community more responsible for our support.
4. Provide services to the business community.
5. Become a consulting agency to other institutions in the area of continuing education.
6. Make our services known to the white community.
7. Become a viable political force in the black community.
8. Develop ties with an educational TV channel to enable us to do a monthly educational program.
9. Develop a relationship with black institutions to enable minority students to attend them.
10. Make clients begin to feel they are a part of WINNERS.
11. Bring in more volunteers.
12. Develop more resources about educational matters that affect our clients.
13. Open satellite office in another section of the city.
14. Develop audio-visual in some capacity.
15. Do research on adults before and after entering school.
16. Help staff to develop a strong commitment to the program.
17. Help staff to become a more cohesive unit.
18. Strengthen communication links between the staff and the board.

TABLE III-1 (Continued)

ORIGINAL LIST OF GOALS AS GENERATED BY THE STAFF OF WINNERS

19. Get rid of dead weight.
20. Provide training for board members.
21. Develop board commitment.
22. Develop expertise in different goals.
23. Help adult women continue their education.
24. Improve all our supportive services including tutorial, advocacy, and referral programs.
25. Bring in a Hispanic counselor.
26. Provide career life planning for the clients.
27. Provide job development and placement.
28. Provide assistance to high school students.
29. Acquire more space.

TABLE III-2

FINAL LIST OF WINNERS GOALS WITH THEIR IMPORTANCE WEIGHTS

200	A	Develop greater credibility with foundations and other funding sources.
175	B	Help adult women continue their education.
145	C	Provide services on campuses as well as at WINNERS.
125	D	Develop extensive community and institutional outreaches.
100	E	Improve all our supportive services.
100	F	Help staff to develop a strong commitment to the program.
80	G	Increase diversity of staff.
75	H	Promote advertising through the media.
75	I	Provide job development and placement.
60	J	Provide assistance to high school students.
60	K	Promote staff in-service training programs.
50	L	Increase commitment, training, and expertise of members of the board.
40	M	Make the community more responsible for our financial support.
30	N	Promote services to the business community.
30	O	Become a viable political force in the black community.
25	P	Do research on adults before and after entering school.
25	Q	Become a consulting agency to other institutions in the area of continuing education.
20	R	Develop audio-visual in some capacity.

TABLE III-2 (Continued)

FINAL LIST OF WINNERS GOALS WITH THEIR IMPORTANCE WEIGHTS

10	S	Develop a relationship with black institutions to enable minority students to attend them.
10	T	Acquire more space.

"acquire more space" is the least important. The group assigned an importance weight to each goal, the least important being equal to 10 and the most important being equal to 200 (Goal A is 20 times more important than Goal T).

In order to normalize the numbers attached to the importance weights, the following computational step was used. Importance weights were summed up; each importance weight was divided by the sum, and then multiplied by 100. This technique is simple and allows a normalized scale of 0-to-100 to be distributed among the importance weights. For example, the sum of importance weights is equal to 1,435. Therefore, in order to normalize the importance weight for Goal A, 200 is divided by the total sum 1,435, and the result multiplied by 100.

$$\frac{200 \cdot 100}{1,435} = 13.9\%$$

Table IV-3 shows the distribution of importance weights on a scale of 0-100. (The sum of importance weights is equal to 100.)

Development of Measurable Attributes to Measure Goal Attainment

A meeting for all members of WINNERS was organized to develop measurable attributes with which to measure the degree of attainment for each goal. This stage required the interaction of the facilitator with the group. Various measures were suggested, and each was discussed. The reliability and feasibility of the measure were the

TABLE III-3

NORMALIZATION OF IMPORTANCE WEIGHTS FOR WINNERS GOALS

13.9%	A	Develop greater credibility with founding sources.
12.2%	B	Help adult women continue their education.
10.1%	C	Provide services on campuses as well as at WINNERS.
8.7%	D	Develop extensive community and institutional outreaches.
7.0%	E	Improve all our supportive services.
7.0%	F	Help staff to develop a strong commitment to the program.
5.6%	G	Increase diversity of staff.
5.2%	H	Promote advertising through the media.
5.2%	I	Provide job development and placement.
4.2%	J	Provide assistance to high school students.
4.2%	K	Promote staff in-service training programs.
3.5%	L	Increase commitment, training, and expertise of members of the board.
2.8%	M	Make the community more responsible for our financial support.
2.1%	N	Promote services to the business community.
2.1%	O	Become a viable political force in the black community.
1.7%	P	Do research on adults before and after entering school.
1.7%	Q	Become a consulting agency to other institutions in the area of continuing education.
1.4%	R	Develop audio-visual in some capacity.
0.7%	S	Develop a relationship with black institutions to enable minority students to attend them.
0.7%	T	Acquire more space.

major concerns of the group. The group was also aware that because of limited resources not all the goals could be measured; it was therefore suggested that the evaluation study concentrate its effort on the first eight goals which encountered 70 percent of the total relative weights. As a result, only Goals A through H were evaluated. Following is the list of goals, along with the measures that the group believed would be most useful in determining the extent to which each goal had been attained. Within each goal the measures were also ranked and assigned importance weights by the group. The sum of importance weights for each goal is equal to 100.

GOALS AND MEASURES FOR WINNERS

GOAL 1: DEVELOP GREATER CREDIBILITY WITH FUNDING SOURCES

WEIGHT — 13.9%

Measures:

.25 - a) Number of visits per month

.20 - b) Average cost per client visit per year

.20 - c) Percentage of clients enrolled or successfully completing educational programs

.20 - d) Number of contracts signed with colleges and universities for providing WINNERS services to them

.09 - e1) Number of government contracts received

.03 - e2) Number of contributions made by foundations (defined as $1,000 - $10,000)

.03 - e3) Number of contributions made by corporations (defined as below $1,000)

GOAL 2: HELP ADULT WOMEN CONTINUE THEIR EDUCATION

WEIGHT — 12.2%

Measures:

.20 - a) Percentage of clients referred to colleges, universities, or other training programs

.20 - b) Percentage of clients accepted to educational programs

.15 - c) The extent to which WINNERS is helpful in assisting its client make career choices

.15 - d) Client satisfaction with financial aid

.15 - e) The extent to which clients' expectations about education are met

.15 - f) The extent to which WINNERS has been able to meet client needs

GOAL 3: PROVIDE SERVICES ON CAMPUSES AS WELL AS AT WINNERS

WEIGHT — 10.1%

Measures:

.25 - a) Number of workshops and seminars conducted on campuses

.25 - b) Number of skill-building workshops and seminars conducted at WINNERS per year

.25 - c) The extent to which clients are satisfied with the skill-building workshops

.25 - d) The extent to which college administrators are satisfied with WINNERS' role

GOAL 4: FOSTER EXTENSIVE COMMUNITY AND INSTITUTIONAL OUTREACH

WEIGHT — 8.7%

Measures:

.30 - a) The extent to which college administrators are familiar with WINNERS

GOAL 4: (Continued)

.25 - b) Geographical distribution of clients

.25 - c) Number of outreach contacts per year made with educational institutes by WINNERS

.20 - d) Number of volunteers per year

GOAL 5: IMPROVE ALL OUR SUPPORTIVE SERVICES

WEIGHT — 7%

Measures:

.25 - a) The extent to which clients are satisfied with the overall services provided by WINNERS

.25 - b) The extent to which the clients are satisfied with the advocacy service provided by WINNERS staff

.25 - c) Number of interventions per year per counselor for WINNERS clients

.25 - d) The extent to which clients are satisfied with the quality of tutorial program

GOAL 6: STAFF TO DEVELOP A STRONG COMMITMENT FOR THE PROGRAM

WEIGHT — 7%

Measures:

.25 - a) The extent to which staff's expectations are met

.25 - b) The extent to which the staff is satisfied with its work

.20 - c) Self-evaluation of the staff

.20 - d) Clients evaluation of the staff

.10 - e) Rate of staff turnover

GOAL 7: PROMOTE HETEROGENEOUS STAFF FOR THE PROGRAM AND ENHANCE ITS PROFESSIONAL DEVELOPMENT

WEIGHT — 5.6%

Measures:

.40 - a) The extent to which the racial background of the staff contributed to the counseling process

.30 - b) Number of staff enrolled in educational programs

.30 - c) Staff satisfaction with the quality of the in-service training program

GOAL 8: PROMOTE ADVERTISING

WEIGHT — 5.2%

Measures:

.50 - a) Degree of public exposure

.30 - b) The extent to which the clients are satisfied with the usefulness of the Newsletter

.20 - c) Number of requests for information per month

GOAL 9: PROVIDE JOB DEVELOPMENT AND PLACEMENT

WEIGHT — 5.2%

Measures:

.30 - a) How many clients chose education over job

.20 - b) How many persons returned to work

.20 - c) How many persons have found employment

.20 - d) Number of adults changing jobs as a result of WINNERS

.10 - e) Client evaluation of the service

GOAL 10: PROVIDE ASSISTANCE TO HIGH SCHOOL STUDENTS

WEIGHT — 4.2%

Measures:

.30 - a) Number of students entering the program

.30 - b) Number of students continuing with WINNERS

.20 - c) Random sample of high school students in the community to find out if they heard about WINNERS

.20 - d) Number of students requesting information

GOAL 11: PROMOTE STAFF IN-SERVICE TRAINING PROGRAMS

WEIGHT — 4.2%

Measures:

.50 - a) Enrollment of staff in courses

.30 - b) Number of workshops and seminars during a year

.20 - c) Staff assessment of training programs

GOAL 12: INCREASE BOARD COMMITMENT, TRAINING, AND EXPERTISE OF MEMBERS OF THE BOARD

WEIGHT — 3.5%

Measures:

.40 - a) Attendance of board members, how often

.25 - b) Questionnaires to board members about their responsibilities and self evaluation

.20 - c) Nature of committees and their involvement

.15 - d) Diversity of board members

GOAL 13: MAKE THE COMMUNITY MORE RESPONSIBLE FOR OUR FINANCIAL SUPPORT

WEIGHT — 2.8%

Measures:

.60 - a) Nature of the fund-raising activities generated by the community

.40 - b) Amount of money collected from the community

GOAL 14: PROMOTE SERVICES TO THE BUSINESS COMMUNITY

WEIGHT — 2.1%

Measures:

.50 - a) Number of sites served

.30 - b) Amount of resources collected

.20 - c) Site evaluation of WINNERS

GOAL 15: BECOME A VIABLE POLITICAL FORCE IN THE BLACK COMMUNITY

WEIGHT — 2.1%

Measures:

.50 - a) Questionnaire to determine WINNERS' importance

.30 - b) Number of volunteers

.20 - c) Funding sources in the community

GOAL 16: RESEARCH ON ADULTS BEFORE AND AFTER ENTERING SCHOOL

WEIGHT — 1.7%

Measures:

.50 - a) How many persons have found jobs

.25 - b) How many persons have been promoted

.25 - c) Follow-up study

GOAL 17: BECOME A CONSULTING AGENCY TO OTHER INSTITUTIONS AROUND CONTINUING EDUCATION

WEIGHT — 1.7%

Measures:

.50 - a) Number of consulting contracts and list of institutions receiving assistance

.40 - b) Number of conferences and workshops with other institutes

.10 - c) Number of letters, telephone calls, visits from other brokers

GOAL 18: DEVELOP AUDIO-VISUAL IN SOME CAPACITIES

WEIGHT — 1.4%

Measures:

.50 - a) Clients' response regarding the use of audio-visual

.50 - b) Staff evaluation regarding the use of audio-visual

GOAL 19: DEVELOP A RELATIONSHIP WITH BLACK INSTITUTIONS TO ENABLE MINORITY STUDENTS TO ATTEND THEM

WEIGHT — 0.7%

Measures:

.60 - a) Number of visits of representatives from black educational institutions

.30 - b) Number of referrals to black institutions

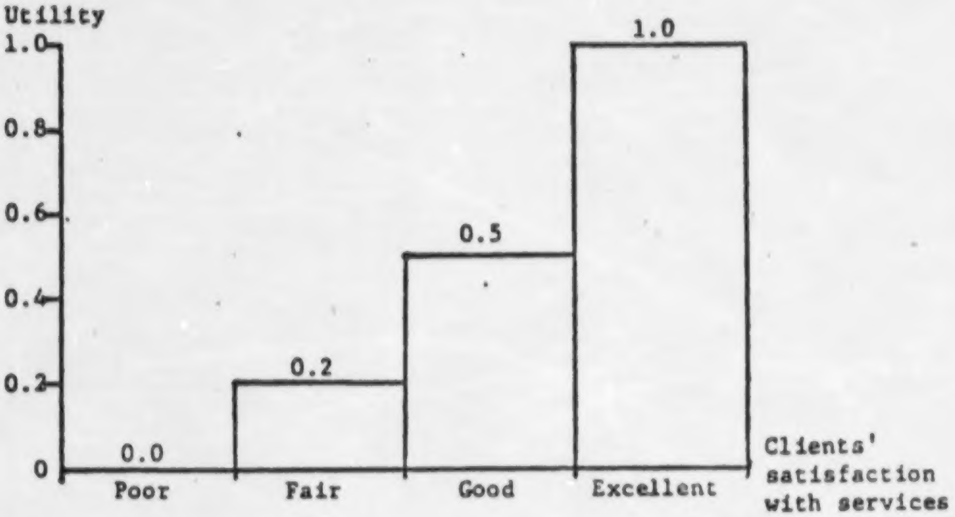
.10 - c) Number of telephone calls and letters from black educational institutions

GOAL 20: ACQUIRE MORE SPACE

WEIGHT — 0.7%

Developing Utility Functions

How much more important is it to have 65 clients served per month compared with 100? What about 125 per month? These questions allude to the utility of the measure. That is, how useful are the various possible values of the specific measure? This information can best be summarized in graphical form shown on the "Goal Summary Sheet." If the measure is categorical (i.e., clients respond to a question by selecting one of four categories, "poor," "fair," "very good," or "excellent"), the procedure is somewhat different. Instead of generating the extreme possible range of the measures, the decision group should determine the relative value of each category on the scale. For example, for the category "poor," the group might decide it has no utility (zero), "fair" a utility of 0.2, "very good" a utility of 0.5, and "excellent" a utility of 1.0.



Utility provides an index of merit for things. It also provides a common metric for aggregating the measures into a single index of worth, which makes the concept of utility highly useful in evaluating programs. A utility function is developed for each measure. Although in the beginning the program director found the process tedious and time consuming, she admitted that it helped her to think much more effectively about her expectations and subjective judgment of the program. She understood that the total sums of utilities are in fact probabilities, and that one of the major purposes of the evaluation was to assess the extent to which utilities for each measure were attained.

Best Estimate and Probability Intervals

Once the utility function was drawn, the program director was asked to give (1) her best estimate for the expected outcome of the measure and (2) the two values between which the outcome of the measure would fall with 50 percent probability. The language used in getting a best guess was the following: "Given what you know about the program, what is your best guess for the number of clients served per month?"

Goal Summary Sheet

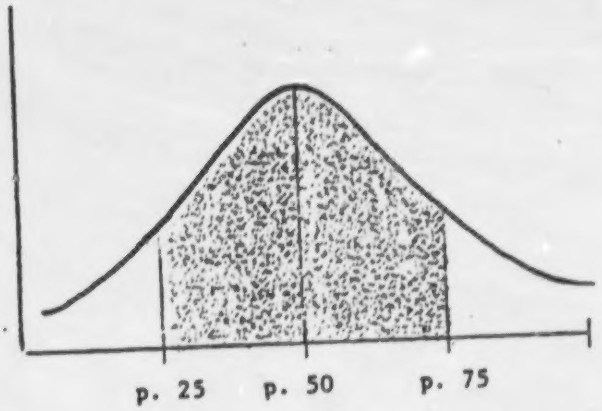
In order to organize the procedure used in generating goal utility, measure, measure's weight, utility function on the outcome, and best estimate, a special form was developed. This "Goal Summary

Sheet" condenses the various steps comprehensively and thereby improves the management of the evaluation.

Description of Format for Goal Summary Sheet

Goal Number:	A number used to identify a stated goal.
Description:	Specification of the goal as it was described by WINNERS personnel.
Importance Weight of a Goal:	A numerical value specifying the weight of the goal with respect to the entire set of goals.
Measure:	The attribute used in order to measure a goal's attainment.
Importance Weight of a Measure:	A number indicating the relative importance of each measure to the overall goal.
Utility of Outcome:	A number indicating the utility (usefulness) to the decision maker of various outcomes of the measure. The utility values are scaled so that 0 is the minimum value and 1.0 is the maximum.
Utility Function:	The graph displays the relationship between the various outcomes and the value (usefulness) attached to each outcome. Maximum utility of 1.0 indicates the maximum outcome that the decision group would want. If the decision group considers that 250 clients is the number of clients which would satisfy them, and any number above 250 makes no difference or reduces the value, then 250 clients should generate a maximum utility of 1.0. In examining the utility function for each measure, linear utility is assumed for every measure.
Best Estimate:	This is the best guess for the expected outcome of the measure as indicated by the program director or the staff.

Probability Interval: The is the estimated "range" within which the program director believes the outcome of the measure will fall with 50 percent probability.



Data Sources: Sources used for data collection were the following:

- WINNERS records
- WINNERS staff
- WINNERS clients
- College administrators
- Media experts

Procedure Used for Data Collection

This section explains the process by which data was collected and the specific questions asked. Instruments for data collection were mainly based on interviews with each member of WINNERS' staff. The records of 362 clients were examined for demographic information. Two client questionnaires were designed and administered. A mail questionnaire was sent to 400 clients randomly selected from WINNERS' files. Eighty questionnaires were completed. Approximately 52 questionnaires were returned to the program because of a change in address. The response rate to the mail survey was 23 percent.

In order to assess some of the new sources provided bv WINNERS and to have the opportunity to talking to clients, a sample of 120 clients was selected for a telephone survey. It was found that many of the clients had an unpublished number or had changed their address. Only 49 clients were interviewed over the phone. The response to both questionnaires was extremely favorable and clients were willing to talk openly about their experience with WINNERS.

A questionnaire was designed for college administrators and a sample of 25 institutions was selected from the telephone directory's yellow pages. Responses from these administrators were very supportive.

Data was collected for the eight most important goals. Thirty-six measures were used in order to determine the extent to which program goals had been attained.

GOAL NO. 1

Develop greater credibility with funding sources

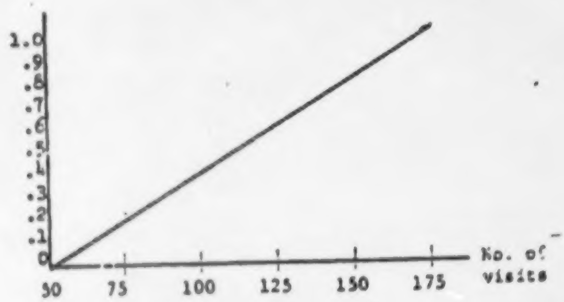
- a. Number of visits per month
- b. Average cost per client visit per year
- c. Percentage of clients enrolled in educational program
- d. Number of contracts signed with colleges
- e.
  - e1) Number of contributions by corporations
  - e2) Number of contributions by foundations
  - e3) Number of government contracts

GOAL SUMMARY SHEET

	DESCRIPTION	INFORMATION WEIGHT
GOAL NO. 1	Develop greater credibility with funding sources.	13.9
MEASURE a	Number of visits per month	.25

UTILITY OF OUTCOME (USEFULNESS)	0.0	0.2	0.4	0.6	0.8	1.0				
NUMBER OF VISITS PER MONTH	50	75	100	125	150	175				

UTILITY FUNCTION



BEST ESTIMATE	75 visits	PROBABILITY INTERVAL	65-85 visits
DATA SOURCES	WINNERS Records		

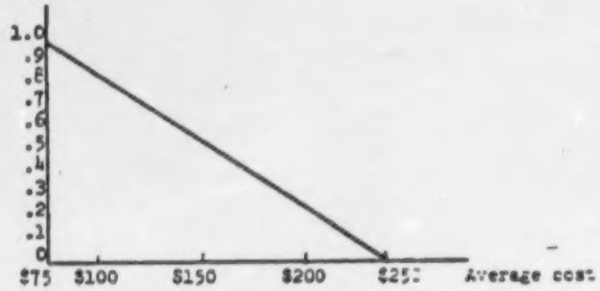
PROCEDURE USED FOR DATA COLLECTION: Total number of client visits per month was recorded between July 1976 and January 1978.

GOAL SUMMARY SHEET

	DESCRIPTION	IMPORTANCE WEIGHT
GOAL NO. 1	Develop greater credibility with funding sources	13.9
MEASURE b	Average cost per client visit per year	.20

UTILITY OF OUTCOME (USEFULNESS)	0.0	0.2	0.4	0.8	1.0					
AVERAGE COST PER CLIENT VISIT PER YEAR	$250	$200	$150	$100	$75					

UTILITY FUNCTION



BEST ESTIMATE	$120	PROBABILITY INTERVAL	$110-$130
DATA SOURCES	Business Office		

PROCEDURE USED FOR DATA COLLECTION

Total budget per year was divided by the number of visits and new clients per month.

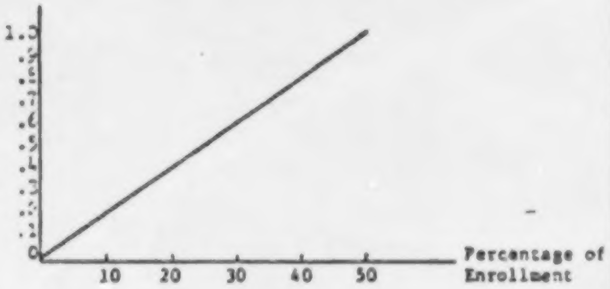
$$\frac{\text{Total budget per year}}{\text{Number of visits per year}} = \text{Cost per client visit}$$

GOAL SUMMARY SHEET

	DESCRIPTION	IMPORTANCE WEIGHT
GOAL NO. 1	Develop greater credibility with funding sources	13.9
MEASURE c	Percentage of clients enrolled or successfully completing their educational training	.20

UTILITY OF OUTCOME (USEFULNESS)	0.0	0.2	0.4	0.6	0.8	1.0				
PERCENTAGE OF CLIENTS ENROLLED OR SUCCESSFULLY COMPLETING THEIR EDUCATIONAL TRAINING	0	10	20	30	40	50				

UTILITY FUNCTION



BEST ESTIMATE 90 percent

PROBABILITY INTERVAL 85-95

DATA SOURCES: WINNERS follow-up records

PROCEDURE USED FOR DATA COLLECTION

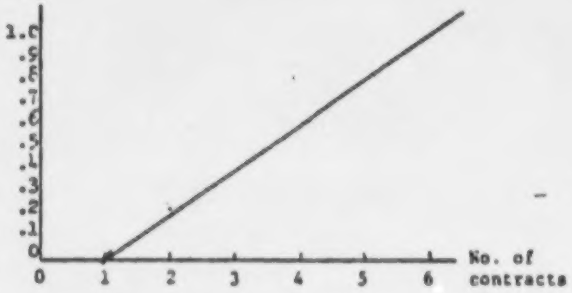
A sample size of 100 WINNERS records were examined to indicate if the client is enrolled, graduated or dropped out.

GOAL SUMMARY SHEET

	DESCRIPTION	IMPORTANCE WEIGHT
GOAL NO. 1	Develop greater credibility with funding sources	13.9
MEASURE d	Number of contracts signed with colleges and universitive for providing WINNERS services to them	.20

UTILITY OF OUTCOME (USEFULNESS)	0.0	0.2	0.4	0.6	0.8	1.0				
NUMBER OF CONTRACTS SIGNED WITH COLLEGES AND UNIVERSITIES FOR PROVIDING WINNERS SERVICES TO THEM	1	2	3	4	5	6				

UTILITY FUNCTION



BEST ESTIMATE 4 contracts

PROBABILITY INTERVAL 3-5 contracts

DATA SOURCES Development Office

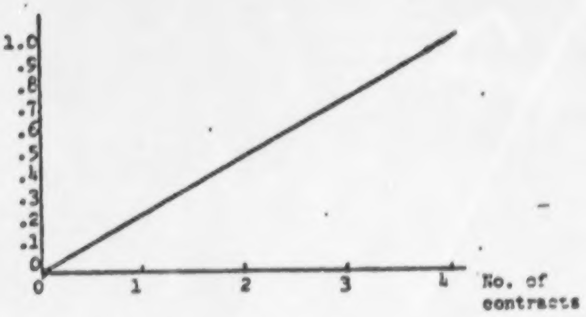
PROCEDURE USED FOR DATA COLLECTION Records were examined to indicate the number of contracts signed with colleges and universities.

GOAL SUMMARY SHEET

	DESCRIPTION	IMPORTANCE WEIGHT
GOAL NO. 1	Develop greater credibility with funding sources	13.9
MEASURE e1	Number of government contracts received	.09

UTILITY OF OUTCOME (USEFULNESS)	0.0	0.5	0.8	0.9	1.0					
Number of government contracts received	0	1	2	3	4					

UTILITY FUNCTION



BEST ESTIMATE 1 contract

PROBABILITY INTERVAL 1-2 contracts

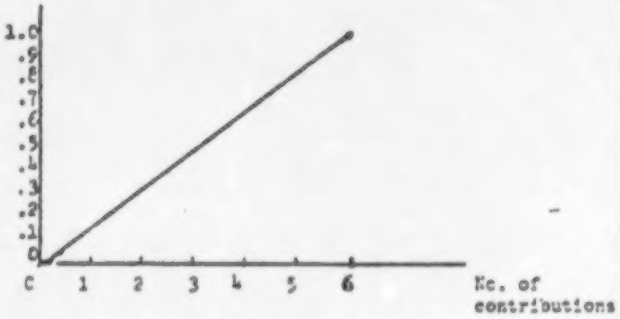
DATA SOURCES Development Office

PROCEDURE USED FOR DATA COLLECTION Number of government contracts was recorded between fiscal years 1976/7 and 1977/8.

GOAL SUMMARY SHEET

	DESCRIPTION							IMPORTANCE WEIGHT	
GOAL NO. 1	Develop greater credibility with funding sources							13.9	
MEASURE a2	Number of contributions made by foundations (defined as $1,000 - $10,000)							.03	
UTILITY OF OUTCOME (USEFULNESS)	0.0	0.1	0.2	0.4	0.6	0.8	1.0		
Number of contributions made by foundations (defined as $1,000-$10,000)	0	1.	2	3	4	5	6		

UTILITY FUNCTION



BEST ESTIMATE 4 contributions

PROBABILITY INTERVAL 3-5 contributions

DATA SOURCES Development Office

PROCEDURE USED FOR DATA COLLECTION

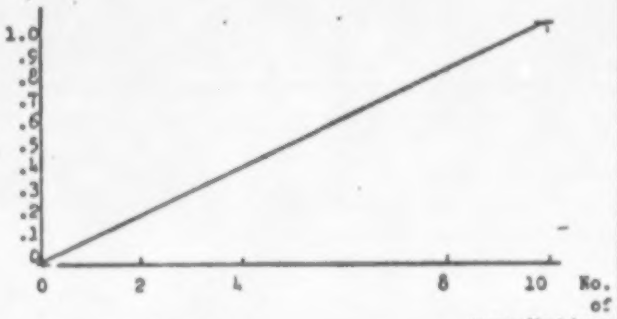
Number of contributions were recorded for the last three years.

GOAL SUMMARY SHEET

	DESCRIPTION	IMPORTANCE WEIGHT
GOAL NO. 1	Develop greater credibility with funding sources	13.9
MEASURE e3	Number of contributions made by corporations (defined as below $1,000)	.03

UTILITY OF OUTCOME (USEFULNESS)	0.0	0.4	0.6	0.8	1.0					
Number of contributions made by corporations (defined as below $1,000)	0	2	4	8	10					

UTILITY FUNCTION



BEST ESTIMATE 4 contributions	PROBABILITY INTERVAL 3-5 contributions
DATA SOURCES	Development Office
PROCEDURE USED FOR DATA COLLECTION	Number of contributions from corporations were recorded for the last two years.

GOAL NO. 2

Help adult women continue their education

a. Percentage of clients referred to colleges

b. Percentage of clients enrolled in educational programs

c. WINNERS assistance in helping clients making career choice

d. Clients' satisfaction with financial aid

e. Clients' expectations about education

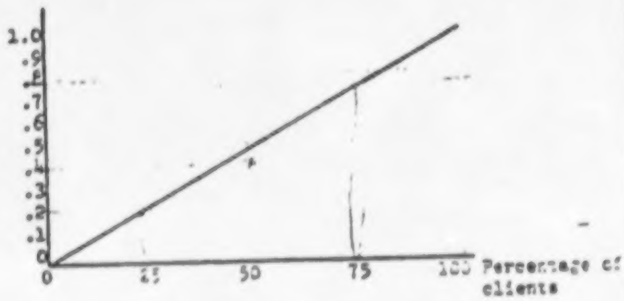
f. WINNERS ability in meeting clients' needs

GOAL SUMMARY SHEET

	DESCRIPTION	IMPORTANCE WEIGHT
GOAL NO. 2	Help adult women continue their education	12.2
MEASURE a	Percentage of clients referred to colleges, universities and other training programs	.20

UTILITY OF OUTCOME (USEFULNESS)	0.0	0.2	0.4	0.8	1.0					
Percentage of clients	0	25	50	75	100					

UTILITY FUNCTION

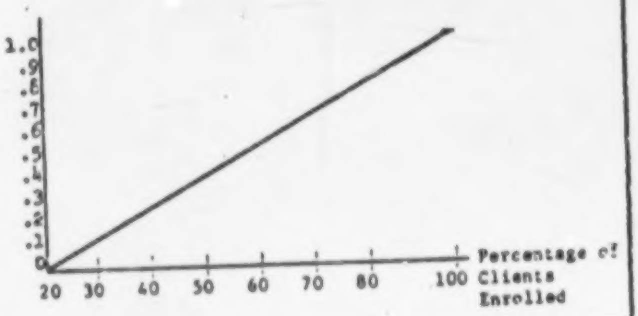


BEST ESTIMATE 60 percent	PROBABILITY INTERVAL 50-60 percent
DATA SOURCES	Clients' Records
PROCEDURE USED FOR DATA COLLECTION	100 client records were randomly selected. The number of clients referred to educational programs by the counselors was recorded.

GOAL SUMMARY SHEET

<table>
<tr><td></td><td colspan="8">DESCRIPTION</td><td colspan="2">IMPORTANCE WEIGHT</td></tr>
<tr><td>GOAL NO. 2</td><td colspan="8">Help adult women continue their education</td><td colspan="2">12.2</td></tr>
<tr><td>MEASURE b</td><td colspan="8">Percentage of clients accepted to educational programs</td><td colspan="2">.20</td></tr>
<tr><td>UTILITY OF OUTCOME (USEFULNESS)</td><td>0.0</td><td>0.3</td><td>0.5</td><td>0.6</td><td>0.7</td><td>0.8</td><td>0.9</td><td>1.0</td><td></td><td></td></tr>
<tr><td>PERCENTAGE OF CLIENTS ACCEPTED TO EDUCATIONAL PROGRAMS</td><td>20</td><td>30</td><td>40</td><td>50</td><td>60</td><td>70</td><td>80</td><td>100</td><td></td><td></td></tr>
</table>

UTILITY FUNCTION



BEST ESTIMATE 70 percent

PROBABILITY INTERVAL 60-80 percent

DATA SOURCES Telephone Survey of Clients

PROCEDURE USED FOR DATA COLLECTION

In order to find out the percentage of sutdents enrolled in educational programs the following question was asked:

Were you ever accepted to any educational program?

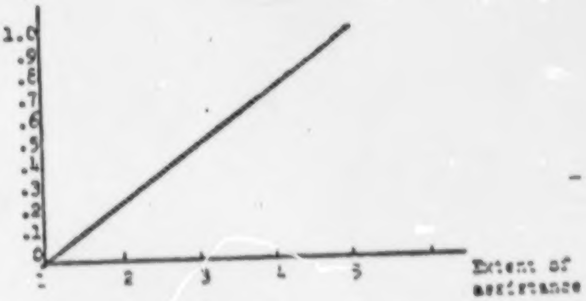
Yes ____ No ____

GOAL SUMMARY SHEET

	DESCRIPTION	INDIVIDUAL WEIGHT
GOAL NO. 2	Help adult women continue their education	12.2
MEASURE c	The extent to which WINNERS is helpful in assisting its clients make career choices	.15

UTILITY OF OUTCOME (USEFULNESS)	0.0	0.4	0.6	0.8	1.0					
The extent to which WINNERS is helpful in assisting its clients make career choices.	1	2	3	4	5					

UTILITY FUNCTION



BEST ESTIMATE 5

PROBABILITY INTERVAL 4-5

DATA SOURCES: Telephone Survey of Clients

PROCEDURE USED FOR DATA COLLECTION

The following questions were asked:

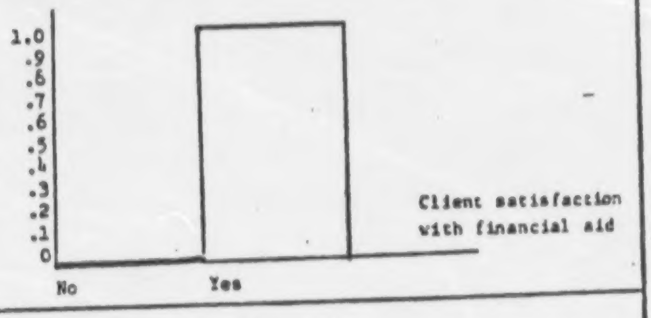
To what extent has WINNERS been able to identify your individual needs with respect to education and/or career?

1	2	3	4	5
not at all				very much

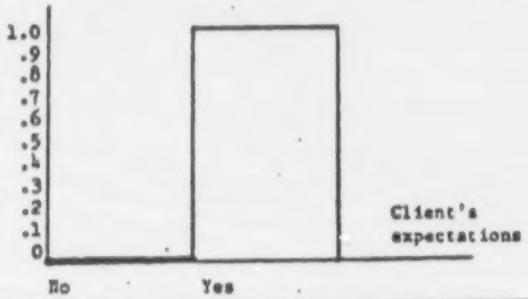
Do you feel that the information you received about education and career choices was adequate?

1	2	3	4	5
not at all adequate				totally adequate

GOAL SUMMARY SHEET

	DESCRIPTION				IMPORTANCE WEIGHT
GOAL NO. 2	Help adult women continue their education				12.7
MEASURE d	Client satisfaction with financial aid				.15
UTILITY OF OUTCOME (USEFULNESS)	0.9	0.1			
Client satisfaction with financial aid	No	Yes			
BEST ESTIMATE	0.1	0.9			
PROBABILITY INTERVAL	0.1-0.2	0.8-1.0			
UTILITY FUNCTION					
DATA SOURCES	Mail Survey to Clients				
PROCEDURE USED FOR DATA COLLECTION	The following question was asked: Did you find WINNERS helpful in assisting you with financial aid? Yes____ No____ Any comments:__________				

GOAL SUMMARY SHEET

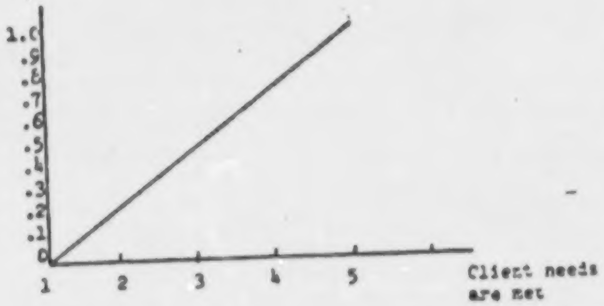
	DESCRIPTION				IMPORTANCE WEIGHT
GOAL NO. 2	Help adult women continue their education				12.2
MEASURE e	The extent to which client's expectations about education are met				.15
UTILITY OF OUTCOME (USEFULNESS)	0.0	1.0			
Client's expectations about education	No	Yes			
BEST ESTIMATE	0.3	0.7			
PROBABILITY INTERVAL	.2-.4	.6-.8			
UTILITY FUNCTION					
DATA SOURCES	Clients' Questionaire				
PROCEDURE USED FOR DATA COLLECTION	The following questions were asked: Do you find that your expectations about education are being met at the school you are attending? Yes_____ No_____ Other_____________________________ If you are disappointed with your school, check reasons: ____a. No daycare facilities ____b. Schoolis too far away ____c. Courses are difficult ____d. Classes are boring ____e. Financial aid ____f. Other				

GOAL SUMMARY SHEET

	DESCRIPTION	IMPORTANCE WEIGHT
GOAL NO. 2	Help adult women continue their education	12.2
MEASURE f	The extent to which WINTERS has been able to meet client needs	.15

UTILITY OF OUTCOME (USEFULNESS)	0.0	0.4	0.6	0.8	1.0					
Client needs are met (Scale 1-5)	1	2	3	4	5					

UTILITY FUNCTION



BEST ESTIMATE 4

PROBABILITY INTERVAL 3-5

DATA SOURCES: Telephone Survey of Clients

PROCEDURE USED FOR DATA COLLECTION

The following question was asked:

To what extent were the services provided by WINTERS tailored to your individual needs and goals?

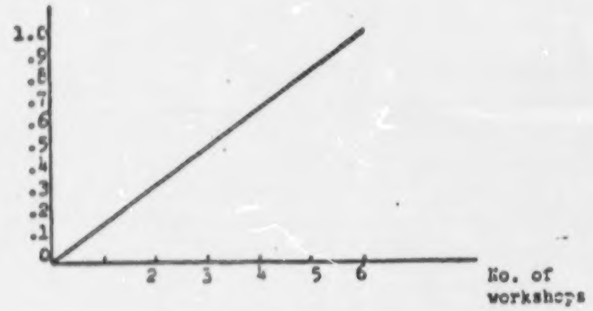
1	2	3	4	5
not at all				very much

GOAL SUMMARY SHEET

	DESCRIPTION	IMPORTANCE WEIGHT
GOAL NO. 3	Provide services on campuses as well as at WINNERS	10.1
MEASURE a	Number of workshops and seminars conducted on campuses	.25

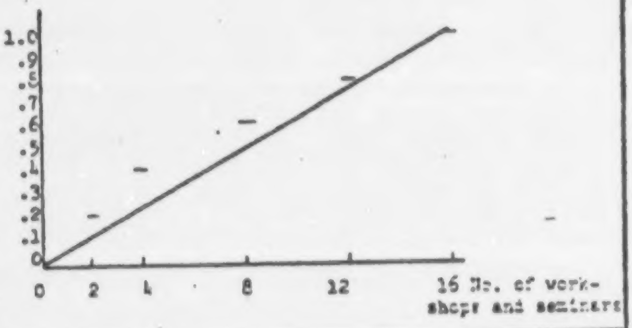
UTILITY OF OUTCOME (USEFULNESS)	0.0	0.2	0.4	0.6	0.8	1.0				
Number of workshops and seminars conducted on campuses	0	2	3	4	5	6				

UTILITY FUNCTION



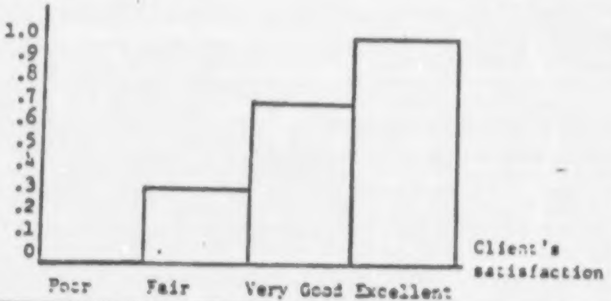
BEST ESTIMATE	4 workshops	PROBABILITY INTERVAL	3-5 workshops
DATA SOURCES	Outreach Officer		
PROCEDURE USED FOR DATA COLLECTION	The number of workshops and seminars conducted on campuses during the last two years was recorded from WINNERS' files.		

GOAL SUMMARY SHEET

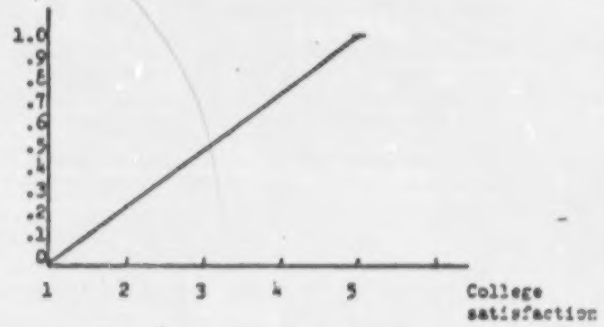
	DESCRIPTION								IMPORTANCE WEIGHT	
GOAL NO. 3	Provide services on campuses as well as at WINNERS								10.1	
MEASURE b	Number of skill-building workshops and seminars conducted at WINNERS per year								.25	
UTILITY OF OUTCOME (USEFULNESS)	0.0	0.2	0.4	0.6	0.8	1.0				
Number of skill-building workshops and seminars conducted at WINNERS per year	0	2	4	8	12	16				
UTILITY FUNCTION										

BEST ESTIMATE 8 workshops	PROBABILITY INTERVAL 7-9 workshops
DATA SOURCES	Development Office
PROCEDURE USED FOR DATA COLLECTION	The number of skill-building workshops conducted during the fiscal years 1976/7 and 1977/8 was recorded during the course of the evaluation study.

GOAL SUMMARY SHEET

	DESCRIPTION				IMPORTANCE WEIGHT
GOAL NO. 3	Provide services on campuses as well as at WINNERS				10.1
MEASURE c	The extent to which clients are satisfied with the overall services provided at WINNERS				.25
UTILITY OF OUTCOME (USEFULNESS)	0.0	0.3	0.7	1.0	
Clients' satisfaction with the overall services	Poor	Fair	Very Good	Excellent	
BEST ESTIMATE	0.0	0.0	0.2	0.5	
PROBABILITY INTERVAL			.1-.3	.7-.9	
UTILITY FUNCTION					
DATA SOURCES	Client Mail Survey				
PROCEDURE USED FOR DATA COLLECTION	The following question was asked: How would you rate the overall services provided at WINNERS? Poor____ Fair____ Very Good____ Excellent____				

GOAL SUMMARY SHEET

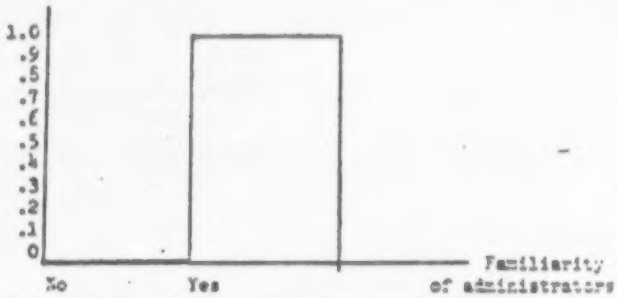
<table>
<tr><td></td><td colspan="8">DESCRIPTION</td><td colspan="2">IMPORTANCE WEIGHT.</td></tr>
<tr><td>GOAL NO. 3</td><td colspan="8">Provide services on campuses as well as at WINNERS</td><td colspan="2">10.1</td></tr>
<tr><td>MEASURE d</td><td colspan="8">The extent to which college administrators are satisfied with WINNERS' role on campuses</td><td colspan="2">.25</td></tr>
<tr><td>UTILITY OF OUTCOME (USEFULNESS)</td><td>0.0</td><td>0.4</td><td>0.6</td><td>0.8</td><td>1.0</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>College satisfaction with WINNERS (Scale 1-5)</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>UTILITY FUNCTION</td><td colspan="10">
</td></tr>
<tr><td colspan="4">BEST ESTIMATE 4</td><td colspan="7">PROBABILITY INTERVAL 3-5</td></tr>
<tr><td>DATA SOURCES</td><td colspan="10">Interviews with College Administrators</td></tr>
<tr><td>PROCEDURE USED FOR DATA COLLECTION</td><td colspan="10">Have you ever heard of WINNERS?
Yes_____ No_____
Have you had any contact with WINNERS?
Yes_____ No_____ In what context?_______________________
Are you familiar with the skill-building workshops offered by WINNERS?
Yes_____ No_____
If "Yes", how would you rate the quality of these workshops?
1 2 3 4 5
very poor excellent
How satisfied are you with the career and educational counselling services offered by WINNERS?
1 2 3 4 5
not at all totally satisfied
Have you any suggestions?_______________________</td></tr>
</table>

GOAL NO. 4

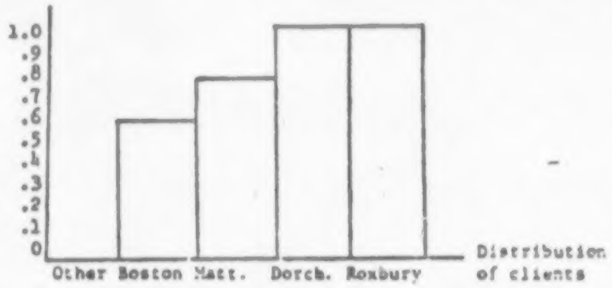
Foster extensive community and institution outreach

- a. Colleges familiarity with WINNERS
- b. Geographical distribution of clients
- c. Number of outreach contacts made with educational institutions
- d. Number of volunteers per year

GOAL SUMMARY SHEET

	DESCRIPTION				IMPORTANCE WEIGHT
GOAL NO. 4	Foster extensive community and institutional outreach				8.7
MEASURE a	The extent to which college administrators are familiar with WINNERS.				.30
UTILITY OF OUTCOME (USEFULNESS)	0.0	1.0			
Familiarity of college administrators with WINNERS	No	Yes			
BEST ESTIMATE	.2	.8			
PROBABILITY INTERVAL	.1-.3	.7-.9			
UTILITY FUNCTION					
DATA SOURCES	Sample of Colleges and Universities in the Boston Area				
PROCEDURE USED FOR DATA COLLECTION	This question is part of the question asked in Goal 3d Have you ever heard of WINNERS? Yes____ No____				

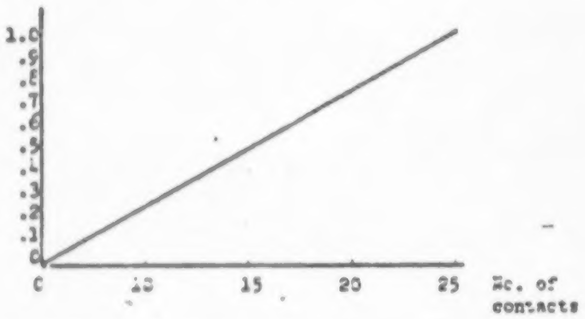
GOAL SUMMARY SHEET

	DESCRIPTION				IMPORTANCE WEIGHT
GOAL NO. 4	Foster extensive community and institutional outreach				8.7
MEASURE b	• Geographical distribution of clients				.25
UTILITY OF OUTCOME (USEFULNESS)	1.0	1.0	0.8	0.6	0.4
GEOGRAPHICAL DISTRIBUTION OF CLIENTS	Roxbury	Dorchester	Mattapan	Boston	Other
BEST ESTIMATE	.40	.20	.20	.15	.05
PROBABILITY INTERVAL	.35-.45	.15-.20	.15-.20	.10-.20	.03-.07
UTILITY FUNCTION	 				
DATA SOURCES	WINNERS' Records				
PROCEDURE USED FOR DATA COLLECTION	Records on clients were reviewed in order to identify residential location of clients.				

GOAL SUMMARY SHEET

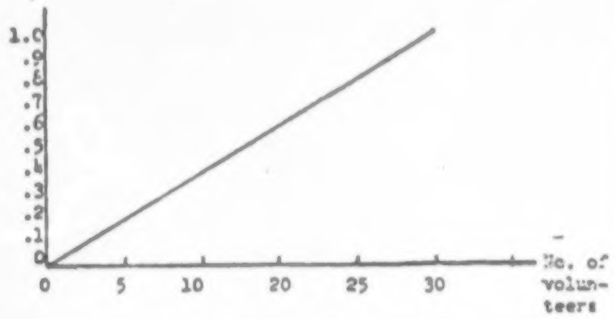
	DESCRIPTION								IMPORTANCE WEIGHT	
GOAL NO. 4	Foster extensive community and institutional outreach								8.7	
MEASURE c	Number of outreach contacts per year made with educational institutes by WINNERS.								.25	
UTILITY OF OUTCOME (USEFULNESS)	0.0	0.4	0.6	0.8	1.0					
Number of outreach contacts per year made with educational institutes by WINNERS	0	10	15	20	25					

UTILITY FUNCTION



BEST ESTIMATE 18 contacts	PROBABILITY INTERVAL 16-20 contacts
DATA SOURCES	University Liaison
PROCEDURE USED FOR DATA COLLECTION	Number of visits made by university liaison person were recorded during the course of the evaluation study.

GOAL SUMMARY SHEET

<table>
<tr><td></td><td colspan="8">DESCRIPTION</td><td colspan="2">IMPORTANCE WEIGHT</td></tr>
<tr><td>GOAL NO. 4</td><td colspan="8">Foster extensive community and institutional outreach</td><td colspan="2">8.7</td></tr>
<tr><td>MEASURE NO. d</td><td colspan="8">Number of volunteers per year.</td><td colspan="2">.20</td></tr>
<tr><td>UTILITY OF OUTCOME (USEFULNESS)</td><td>0.0</td><td>0.2</td><td>0.4</td><td>0.6</td><td>0.8</td><td>1.0</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Number of volunteers per year</td><td>0</td><td>6</td><td>12</td><td>18</td><td>24</td><td>30</td><td></td><td></td><td></td><td></td></tr>
<tr><td>UTILITY FUNCTION</td><td colspan="10">
</td></tr>
<tr><td colspan="3">BEST ESTIMATE 4 volunteers</td><td colspan="8">PROBABILITY INTERVAL 2-6 volunteers</td></tr>
<tr><td>DATA SOURCES</td><td colspan="10">Counselors' Interview</td></tr>
<tr><td>PROCEDURE USED FOR DATA COLLECTION</td><td colspan="10">Counselors were asked about the number of volunteers helping at WINNERS.</td></tr>
</table>

GOAL NO. 5

Improve all our supportive services

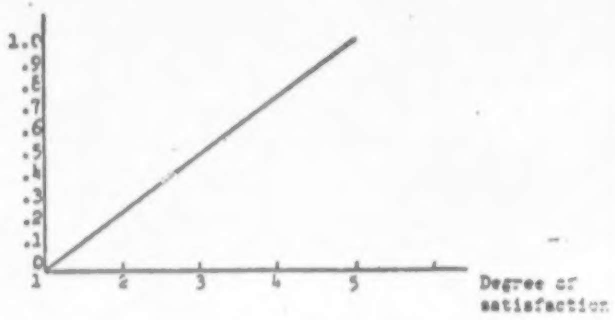
- a. Clients' satisfaction with the overall services provided by WINNERS
- b. Clients' satisfaction with the quality of advocacy service
- c. Number of interventions made by counselors
- d. Clients' satisfaction with tutorial services

GOAL SUMMARY SHEET

	DESCRIPTION	[illegible] WEIGHT
GOAL NO. 5	Improve all our supportive services	7.0
MEASURE a	The extent to which clients are satisfied with the quality of skill-building workshops.	.50

UTILITY OF OUTCOME (USEFULNESS)	0.0	0.4	0.6	0.8	1.0					
Clients' satisfaction with the quality of skill-building workshops (Scale 1-5)	1	2	3	4	5					

UTILITY FUNCTION



BEST ESTIMATE 4	PROBABILITY INTERVAL 3-5
DATA SOURCES	Clients' Telephone Survey

PROCEDURE USED FOR DATA COLLECTION

The following questions were asked:

Are you aware of the workshops sponsored by WINNERS?
Yes_____ No_____

Are you satisfied with the choice of topics for the workshops so far?
Yes_____ No_____ Please comment:____________________

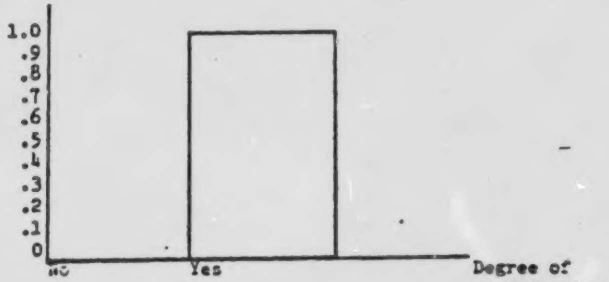
Are you satisfied with the choice of location and time for the workshop so far?
Yes_____ No_____ Please comment:____________________

Have you ever attended any of the workshops sponsored by WINNERS?
Yes_____ No_____

How would you rate the overall quality of the workshop(s) you have attended?

1	2	3	4	5
very poor				excellent

GOAL SUMMARY SHEET

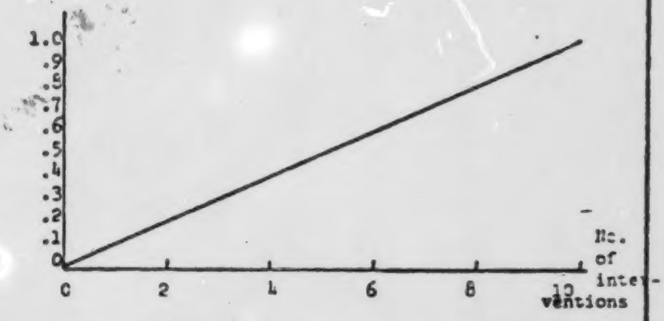
	DESCRIPTION				IMPORTANCE WEIGHT
GOAL NO. 5	Improve all our supportive services				7.0
MEASURE b	The extent to which clients are satisfied with the advocacy service provided by WINNERS staff.				.25
UTILITY OF OUTCOME (USEFULNESS)	0.0	1.0			
Clients' satisfaction with advocacy services	No	Yes			
BEST ESTIMATE	.1	.9			
PROBABILITY INTERVAL	0.0-0.2	0.8-1.0			
UTILITY FUNCTION					
DATA SOURCES	Telephone Survey of Clients				
PROCEDURE USED FOR DATA COLLECTION	The following question was asked: Has WINNERS helped you in cutting some red tape with educational institutions that you would have had trouble doing by yourself? Yes____ No____				

GOAL SUMMARY SHEET

	DESCRIPTION	IMPORTANCE WEIGHT
GOAL NO. 5	Improve all supportive services	7.0
MEASURE c	Number of interventions per year per counselor.	.25

UTILITY OF OUTCOME (USEFULNESS)	0.0	0.2	0.4	0.6	0.8	1.0				
Number of interventions per year per counselor	0	2	4	6	8	10				

UTILITY FUNCTION



BEST ESTIMATE 8 interventions

PROBABILITY INTERVAL 6-10 interventions

DATA SOURCES Counselors' Interview

PROCEDURE USED FOR DATA COLLECTION

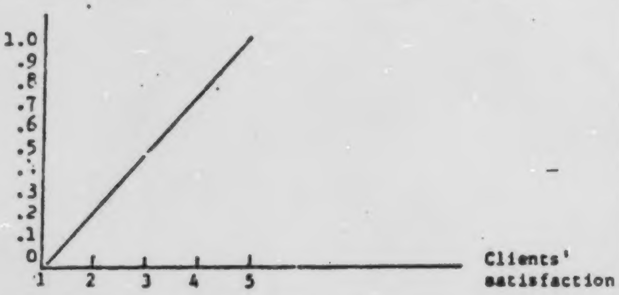
The following question was asked:

How many times have you intervened for your clients?

Number_____

Explain____

GOAL SUMMARY SHEET

	DESCRIPTION				IMPORTANCE WEIGHT
GOAL NO. 5	Improve all our supportive services				7.0
MEASURE d	The extent to which clients are satisfied with tutorial services				1.75
UTILITY OF OUTCOME (USEFULNESS)	0.0	0.4	0.6	0.8	1.0
THE EXTENT TO WHICH CLIENTS ARE SATISFIED WITH TUTORIAL SERVICES (Scale 1-5)	1	2	3	4	5
BEST ESTIMATE	4				
PROBABILITY INTERVAL	3-5				
UTILITY FUNCTION					
DATA SOURCES	Client Questionnaire				

PROCEDURE USED FOR DATA COLLECTION The following question was asked:

To what extent are you satisfied with the tutorial service.

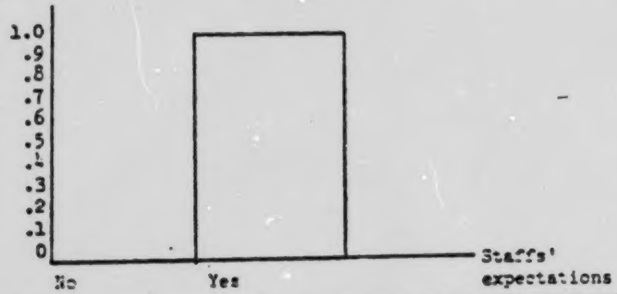
1.____ 2.____ 3.____ 4.____ 5.____

GOAL NO. 6

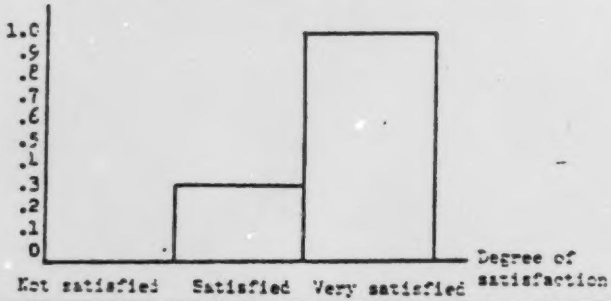
Staff to develop a strong commitment for the program

- a. Staff expectation about work
- b. Staff satisfaction with work
- c. Self evaluation of the staff
- d. Clients' evaluation of the staff
- e. Rated staff turnover

GOAL SUMMARY SHEET

	DESCRIPTION				IMPORTANCE WEIGHT
GOAL NO. 6	Staff to develop a strong commitment to the program				7.0
MEASURE a	The extent to which staffs' expectations are met,				.25
UTILITY OF OUTCOME (USEFULNESS)	0.0	1.0			
The extent to which staffs' expectations are met	No	Yes			
BEST ESTIMATE	.25	.75			
PROBABILITY INTERVAL	.20-.30	.70-.80			
UTILITY FUNCTION					
DATA SOURCES	Staff Interview				
PROCEDURE USED FOR DATA COLLECTION	The following question was asked: Are your expectations from working at WINNERS being met? Yes_____ No_____ Comments:______________________________ ______________________________				

GOAL SUMMARY SHEET

	DESCRIPTION				IMPORTANCE WEIGHT
GOAL NO. 6	Staff to develop a strong commitment to the program				7.0
MEASURE b	The extent to which the staff is satisfied with its work.				.25
UTILITY OF OUTCOME (USEFULNESS)	0.0	0.3	1.0		
The extent to which the staff is satisfied with its work	Not Satisfied	Satisfied	Very Satisfied		
BEST ESTIMATE	.25	.25	.50		
PROBABILITY INTERVAL	.20-.30	.20-.30	.45-.55		
UTILITY FUNCTION					
DATA SOURCES	Staff Interview				
PROCEDURE USED FOR DATA COLLECTION	The following question was asked: How satisfied are you with your work at WINNERS? Very Satisfied_____ Satisfied_____ Not Satisfied at all_____				

GOAL NO. 7

Promote heterogeneous staff for the program and enhance its professional development

a. The extent to which the racial background of the staff contributed to the counseling process

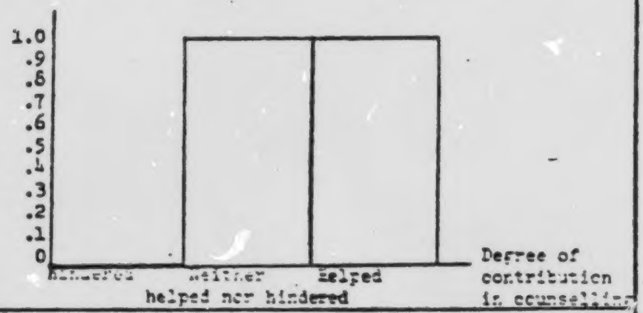
b. Number of staff enrolled in educational programs

c. Staff satisfaction with the quality of the in-service training program

GOAL SUMMARY SHEET

	DESCRIPTION				IMPORTANCE WEIGHT
GOAL NO. 7	Promote heterogeneous staff for the program and enhance its professional development				5.6
MEASURE a	The extent to which the racial background of the staff contributed to the counselling process.				.40
UTILITY OF OUTCOME (USEFULNESS)	0.0	1.0	1.0		
The extent to which the racial background of the staff contributed to the counselling process	Hindered Counselling	Neither Helped nor Hindered	Helped Counselling		
BEST ESTIMATE	0.0	0.3	0.7		
PROBABILITY INTERVAL	0.0	.25-.35	.65-.75		

UTILITY FUNCTION



DATA SOURCES	Telephone Survey of Clients

PROCEDURE USED FOR DATA COLLECTION

The following question was asked:

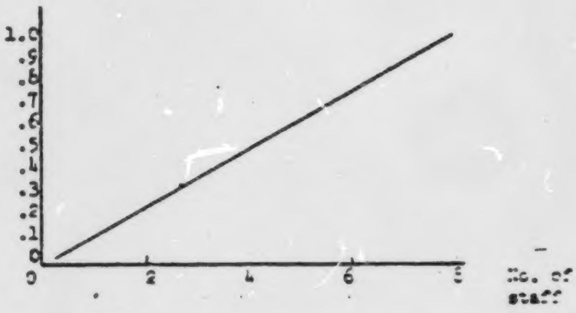
Do you feel that the racial background of your counselor:

a. Helped counselling_____
b. Hindered counselling_____
c. Neither helped nor hindered counselling_____

GOAL SUMMARY SHEET

	DESCRIPTION								RELATIVE WEIGHT	
GOAL NO. 7	Promote heterogeneous staff for the program and enhance its professional development								5.6	
MEASURE b	Number of staff enrolled in educational programs.								.30	
UTILITY OF OUTCOME (USEFULNESS)	0.0	0.4	0.6	0.8	1.0					
Number of staff enrolled in educational programs	0	2	4	6	8					

UTILITY FUNCTION



BEST ESTIMATE 4 members

PROBABILITY INTERVAL 3-5 members

DATA SOURCES Staff Interview

PROCEDURE USED FOR DATA COLLECTION

The following question was asked:

Are you currently enrolled in any educational program?

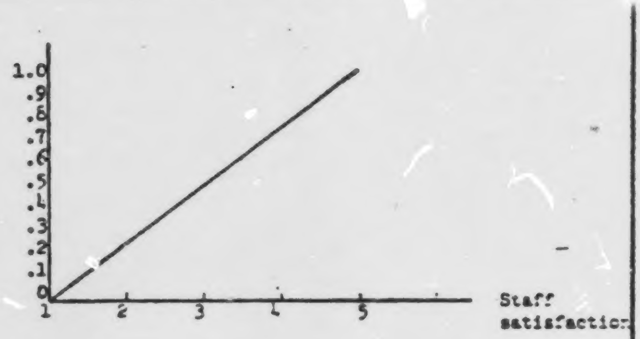
Yes_____ No_____

GOAL SUMMARY SHEET

	DESCRIPTION	IMPORTANCE WEIGHT.
GOAL NO. 7	Promote heterogeneous staff for the program and enhance its professional development	5.6
MEASURE c	Staff satisfaction with the quality of the in-service training program.	.30

UTILITY OF OUTCOME (USEFULNESS)	0.0	0.4	0.6	0.8	1.0					
Staff satisfaction with training program (Scale 1-5)	1	2	3	4	5					

UTILITY FUNCTION



BEST ESTIMATE	3	PROBABILITY INTERVAL	2.5-3.5
DATA SOURCES	Staff Interview		

PROCEDURE USED FOR DATA COLLECTION

The following questions were asked:

Do you consider the number of in-service training programs sufficient to your needs?

1	2	3	4	5
not at all sufficient				totally sufficient

How satisfied are you with the quality of in-service training programs?

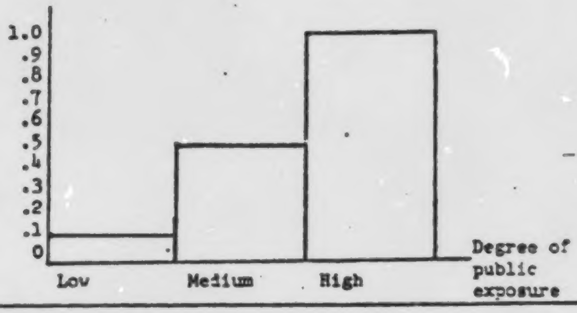
1	2	3	4	5
not at all satisfied				totally satisfied

GOAL NO. 8

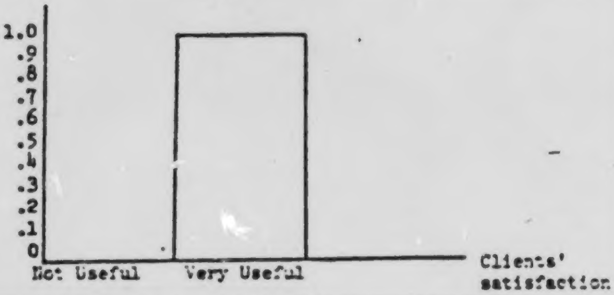
Promote advertising

- a. Degree of public exposure
- b. Clients' satisfaction with WINNERS' newsletter
- c. Number of requests for information per month

GOAL SUMMARY SHEET

	DESCRIPTION				IMPORTANCE WEIGHT
GOAL NO. 8	Promote advertising				5.2
MEASURE a	Degree of public exposure.				.50
UTILITY OF OUTCOME (USEFULNESS)	0.1	0.5	1.0		
Degree of public exposure	Low	Medium	High		
BEST ESTIMATE	0.1	0.8	0.1		
PROBABILITY INTERVAL	.05-.15	0.7-0.9	.05-.15		
UTILITY FUNCTION					
DATA SOURCES	Advertising Expert				
PROCEDURE USED FOR DATA COLLECTION	Articles published, radio and television announcements and other publications were recorded. Three experts in public relations were asked to comment and determine the extent to which the goal was accomplished.				

GOAL SUMMARY SHEET

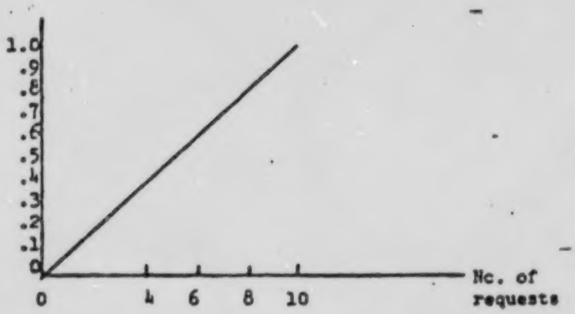
	DESCRIPTION				IMPORTANCE WEIGHT
GOAL NO. 8	Promote advertising				5.2
MEASURE b	The extent to which the clients are satisfied with the usefulness of the newsletter.				.30
UTILITY OF OUTCOME (USEFULNESS)	0.0	1.0			
Clients' satisfaction with the usefulness of the newsletter	Not Useful	Very Useful			
BEST ESTIMATE	0.2	0.5			
PROBABILITY INTERVAL	.15-.25	0.7-0.9			
UTILITY FUNCTION					
DATA SOURCES	Telephone Survey of Clients				
PROCEDURE USED FOR DATA COLLECTION	The following questions were asked: Do you receive WINNERS' newsletter? Yes_____ No_____ If "Yes", do you find it: a. Not useful_____ b. Very useful_____				

GOAL SUMMARY SHEET

	DESCRIPTION	IMPORTANCE WEIGHT
GOAL NO. 8	Promote Advertising	5.2
MEASURE c	Number of requests for information	.20

UTILITY OF OUTCOME (USEFULNESS)	0.0	0.4	0.6	0.8	1.0					
Number of requests for information	0	4	6	8	10					

UTILITY FUNCTION



BEST ESTIMATE	8 requests	PROBABILITY INTERVAL	6-10 requests

DATA SOURCES: Receptionists' Record

PROCEDURE USED FOR DATA COLLECTION: Receptionists were asked to keep a record of all incoming calls requesting information about WINNERS.

CHAPTER IV

DATA ANALYSIS: THE USE OF BAYESIAN STATISTICS

INTRODUCTION

In Chapter III the process of setting, ranking, and weighting goals was described. Also included in the multi-attribute utilities theory (or "MAUT") part of the MAUT-Bayesian model is the weighting of measures for each goal. What constitutes the "Bayesian" part of the model is a series of Bayesian statistical techniques for dealing meaningfully with diverse data. In Chapter III, the process of establishing utility functions was described. The final task for the decision maker, or for an expert he designates, is the stating of prior opinions or beliefs on the outcome of each measure — opinions which are later expressed in terms of their utility function. Details of this process, and the use of these prior opinions or prior beliefs in the data analysis, are described later in this chapter.

THE BAYESIAN MODEL

Bayesian statistics are the key to the analysis of the data. Techniques for continuous revision of prior opinions or probabilities in the light of collected data — i.e., new information — are Bayesian statistics' major contribution to the use of multi-attribute utilities theory. Evaluation requires assessing the worth of the program in terms of the extent to which program goals are, in fact, being realized; the revision of prior opinions or beliefs into posterior probabilities in turn leads to numerical expressions of the program's worth or utility.

The Bayesian approach appeals to decision makers for several reasons, one of which is its explicit attempt to make use of all relevant information. One such source of information is expert opinion. Opinions, in the Bayesian model, are expressed as probabilities. Probability, according to Bayesian theory, is the degree of belief held by a person about the occurrence of some hypothetical event — in this case, outcome on measures. Bayesian technology then provides a method for obtaining experts' prior opinions about a goal's attainment; these become a prior data base, and opinions are then revised on the basis of data collected.

The use of utility functions, weighted measures, and weighted goals on the one hand and Bayesian statistics on the other permits the integration of a number of different types of data (subjective opinion, survey information, controlled experimental results) obtained from a wide array of sources (individual interviews, archival information, head counts). Thus, information which is otherwise useful and relevant rarely needs to be discarded because it fails to meet the assumptions of a more limited theoretical model.

Bayesian statistics provide decision makers with a system for continuing evaluation. New data can be collected at any time beyond the initial measurement. What were once revised posterior probabilities become prior probabilities which are, in turn, revised on the basis of new observed data. As a result of successive observations, one's knowledge about program performance becomes increasingly meaningful, detailed, and useful. This accumulated and continually revised information about the population improves decision makers' familiarity with the complex and changing environment of their programs. Such successive observations can be graphically displayed. Figure IV-1, taken from Samuel Schmitt's Measuring Uncertainty,[6] shows that, as the number of observations increases, the more certain is the information about the population. One can see how the original flat density becomes higher and narrower as the information comes in.

These two types of data aggregation — diverse data at one point in time and repeated observations over time — can make the information yielded by a properly conducted MAUT-Bayesian evaluation rich, powerful, compelling — and useful.

INTRODUCING GOAL 4 AS AN EXAMPLE: SOME NOTES ON THE USE OF PRIOR OPINIONS OR BELIEFS

The major purpose of this chapter is to analyze the data collected in the WINNERS evaluation. The result of this analysis will be a series of numerical expressions of the extent to which

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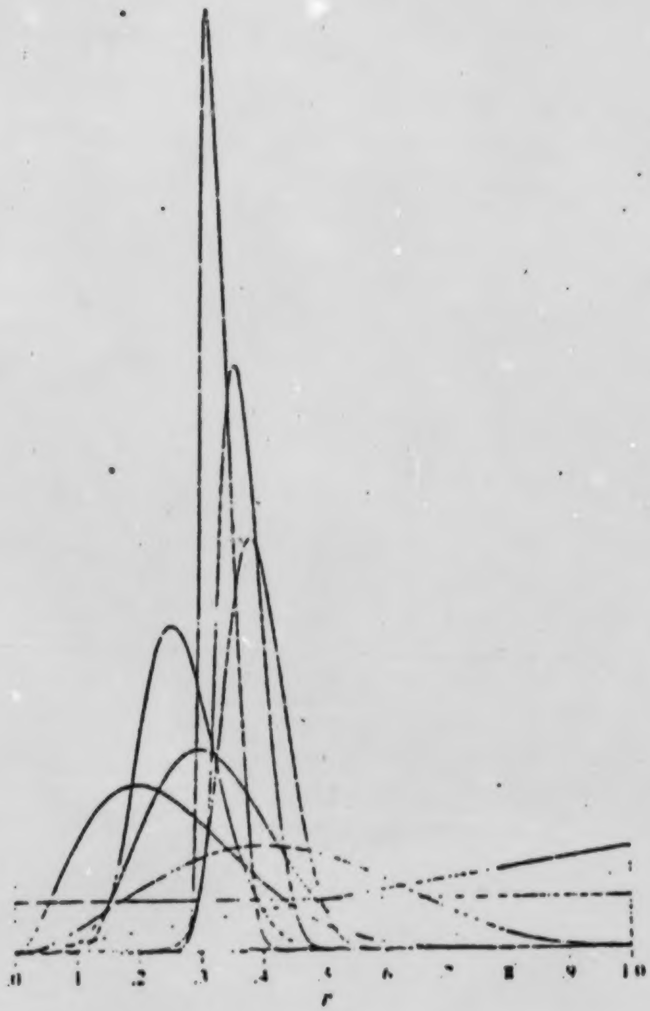
[6] Samuel A. Schmitt, Measuring Uncertainty (Reading, Massachusetts: Addison-Wesley Publishing Company, 1969), p. 111.

FIGURE IV-1

THE NINE CURVES CORRESPOND TO SAMPLE SIZE =

0, 1, 10, 20, 50, 100, 200, and 500



each goal has been attained. In order to enhance the reader's understanding of the process, one of WINNERS' goals will be used as a detailed example for eliciting priors and revising prior probabilities into posterior probabilities. Following this example, the chapter will present the analysis for the remaining WINNERS goals.

Before proceeding to this example, it should be pointed out that the use of prior opinion as an initial data base about an outcome is not always feasible, for several reasons.

(1) Program decision makers are not always able to grasp the meaning of the prior opinion technique. They might tend to overestimate or underestimate. A prior opinion in such a case is meaningless.

(2) There is a general attitude of skepticism regarding the validity of prior opinions, particularly when decision makers are not familiar with the process.

(3) Eliciting prior opinions requires additional time, which is not always available.

(4) When, as in the case of WINNERS, no major evaluation study has previously been conducted, the lack of any previous information on which to base prior opinions makes priors seem somehow vague.

In the WINNERS evaluation, it was decided not to use the prior opinions that decision makers gave the evaluator in the analysis of the data. Murphy (1974)[7] has also suggested that comparing "raw" prior probabilities with unrevised posterior probabilities may be another useful technique for highlighting weaknesses or deficiencies in a program. Examination of the disparity between expected or desired performance and actual performance can improve planning and management of public programs. Ideally, the data collected will serve as future prior opinions, and the prior opinions that were given will be usefully compared with the observed data. However, for purposes of illustration, prior opinions are used in the analysis of Goal 4.

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[7] J. F. Murphy, "Multi-Attribute Utility Analysis: An Application in Social Utilities" (Career Education Project Technical Report, July 1, 1974).

Goal 4 was chosen to illustrate the revision of prior probabilities because of certain attributes. Data from the four measures of this goal fall into distributions which are characteristic of the three major types of probability distribution: Beta-binomial, Dirichlet-multinomial, and normal. The discussion of these three major distribution types will fully illustrate the Bayesian data analysis process.

ANALYSIS OF RESULTS FOR GOAL 4

Maximum Possible Utility

The fourth goal states the program's desire to be recognized by the community and by the institutions of higher education in the Boston area. It reads: "To foster extensive community and institutional outreach." It received an importance weight of 8.7 points out of 100. The staff developed four outcomes to measure goal attainment. These measures, along with their relative weights, are the following:

a. The extent to which college administrators are familiar with WINNERS . . . . (.30)

b. Geographical distribution of clients. . . . . . (.25)

c. Number of outreach contacts per month . . . . . (.25)

d. Number of volunteers per year . . . . (.20)

To calculate the maximum possible utility score for each measure, one multiplies the importance weight of the measure times the importance weight of the overall goal. This is simply a mathematical distribution of the goal's weight (8.7) across its measures (Figure V-II).

Maximum Utility of a Given Measure = (Measure's weight) x (Goal's weight)

	Measure Weight		Goal 4 Weight		Maximum Possible Utility
Measure a	(.30)	x	(8.7)	=	2.610
Measure b	(.25)	x	(8.7)	=	2.175
Measure c	(.25)	x	(8.7)	=	2.175
Measure d	(.20)	x	(8.7)	=	1.740
					8.700 (Goal Weight)

The collection of the data then determines the extent to which maximum possible utility was attained for each measure.

FIGURE IV-2

GOAL NO. 4

GOAL	GOAL WEIGHT	MEASURE	MEASURE WEIGHT
Foster extensive community and institution outreach.	8.7	a. Colleges' familiarity with WINNERS	.30
		b. Geographical distribution of clients	.25
		c. Number of outreach contacts made with educational institutions	.25
		d. Number of volunteers per year	.20

Eliciting Prior Opinion

The decision maker's prior opinion is elicited by asking two questions, which were described in Chapter II. (This, of course, is not the only possible method for eliciting prior opinions or beliefs.) These questions are:

(1) What is your best guess as to what the outcome of the measure will be?

(2) Between what two values do you believe the outcome of the measure will fall with 50 percent level of confidence?

Whether prior opinions will eventually be combined with observed data to form revised posterior probabilities, or simply compared with unrevised posterior probabilities calculated from observed data, they need to be transposed into a comparable form — into prior probabilities.

To do this, two pieces of information are needed for each measure: (1) the answers to the two questions used to elicit prior opinions, and (2) knowledge of the type of data which the measure will yield. As has been mentioned, the types of data yielded by the measures for Goal 4 represent the three major types, which fall into the three major types of probability distributions, as follows:[8]

(1) Data run from zero to infinity: Normal Distribution (Measures c and d).

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[8] The conditions stated below in (1), (2), and (3) are descriptions of the data used, not definitions of the probability distribution used.

(2) Data are dichotomous (e.g., yes/no) and the result will therefore be a percentage from 0 to 100: Beta-binomial Distribution (Measure a).

(3) Data are categorical (e.g., much better, better, same, worse, much worse) and the result will therefore be one of several categories: Dirichlet-Multinomial Distribution (Measure b).

For each measure, once the type of data and the distribution family of which it is characteristic are known, the "best guess" and the 50 percent confidence interval can be used to determine (1) the theoretical sample size on which the prior opinion is assumed to be based, and (2) what value that "best guess" has in that distribution and sample size. The "best guess" and the 50 percent confidence interval describe one of many possible distributions and sample sizes. The advent of computer technology greatly simplifies the process of scanning each family for the distribution which most closely matches the best guess and interval given by the decision maker, which in turn yields the sample size and best guess value. This sample size and value in turn make possible the combining or comparing of the prior opinion (now prior probability) with the observed data (or posterior probability).

Analysis of Results for Measures

Prior Probability. Measure a was set up to yield a simple percentage outcome: the percentage of sampled colleges which were, in answer to a yes/no question, familiar with WINNERS. The program director's best guess for the percentage of colleges familiar with

WINNERS was 80 percent. In other words, she believed that 80 percent of the institutions of post-secondary education in the Boston area were familiar with WINNERS. She also stated that, with 50 percent probability, the percentage of college administrators who were familiar with WINNERS was between 70 and 90 percent.

Because the outcome is measured in percentage of "yes" responses, the Beta-binomial distribution is the most appropriate model in this case. The particular Beta distribution to be chosen is the one which best fits the program director's response to questions (1) and (2) above, (80 percent, with 50 percent confidence interval between 70 and 90 percent). Hence, the particular Beta distribution closest to the distribution represented by the program director's "best guess" should be that particular Beta distribution which most closely approximates (1) mean value equal to 80 percent, and (2) 50 percent of the probability between 70 percent and 90 percent (see Figure IV-3).

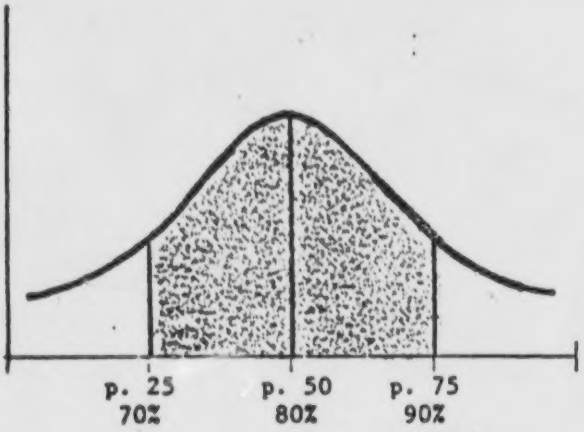

FIGURE IV-3

DISPLAY OF THE PROBABILITY DISTRIBUTION

A computer program designed by Novick, et al.[9] called CADA (Computer Assisted Data Analysis), searches the family of distributions (in this case the Beta family) until the particular distribution is found which best fits the values given for expected outcome and confidence interval. Each Beta distribution is described by two values: one for number of successes and one for number of failures. In this case — prior opinion on Measure a — the distribution is (6.02, 1.75), or 6.02 successes and 1.75 failures. Obviously 6.02 plus 1.75 becomes the sample size: 7.77. This particular Beta distribution (6.02, 1.75) is now used to describe the number of successes and failures represented by the prior opinion.

One can conceptualize the first value (6.02) as the hypothetical number of college administrators who are familiar with WINNERS' program. The second value (1.75) can be interpreted as the hypothetical number of college administrators observed by the program director who were not familiar with WINNERS. Therefore, the mean percentage value for the expected outcome represented by the prior opinion can be calculated by dividing the number of successes (6.02) by the sample size (7.77):

$$\frac{6.02}{7.77} = .77 \text{ or 77 percent.}$$

Thus, 77 percent is the hypothetical proportion of college administrators perceived by the program director as familiar with WINNERS' program.

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[9] Melvin R. Novick, Gerald L. Isaacs, and Dennis F. DeKeyril, Computer-Assisted Data Analysis (University of Iowa, 1977).

Data Collection. A sample of 25 institutions of post-secondary education was randomly selected. College administrators were asked if they were familiar with WINNERS. Out of the 25 administrators, 17 were and eight were not: this is a 68 percent positive response in a sample of 25.

Posterior Estimate and Utility. The posterior estimate or probability for the outcome is the average of the prior probability and the sample data. This can be computed by the use of Bayes' formula.

$$\text{Posterior Estimate} = \frac{(\text{Prior Sample Size})(\text{Prior Estimate}) + (\text{Data Sample Size})(\text{Sample Estimate})}{(\text{Prior Sample Size}) + (\text{Data Sample Size})}$$

Hence, in this case:

$$\text{Posterior Estimate} = \frac{(7.77)(.77) + (25)(.68)}{7.77 + 25} = .70$$

Clearly, the prior estimate becomes less important as the actual sample size increases. In order to calculate the expected utility, which is the extent to which the maximum utility on the measure is attained, one merely multiplies the posterior probability times the maximum utility. Hence, in this case, the expected utility is 1.83 (that is: .70 x 2.61).

Once expected utility is computed, the program director is provided with an assessment of the extent to which the maximum utility of 2.61 has been attained. One can also state that out of 100 percent level of outcome attainment, 70 percent attainment was observed. The decision maker's initial estimate (68 percent) is revised (to 70 percent) and is now more meaningful and significant.

A simpler technique for calculating the posterior probability or estimate is to simply combine the "prior successes" with data success, combine the "prior sample size" with the data sample size, and compute the mean value by dividing the former sum by the latter. As can be seen below, the outcome is the same.

Prior Probability:

Beta with S' = 6.02 f' = 1.75 n' = 6.02 + 1.75 = 7.77

Sample Data:

Binomial with S = 17.00 f = 8.00 n = 17.00 + 8.00 = 25.00

Posterior Probability:

Beta with S" = 23.02 f" = 9.75 n" = 32.77

Posterior Estimate: S"/n" = 23.02/37.22 = .70

Posterior Expected Utility: (.70) x (2.61) = 1.83

The steps described in this section are summarized in Table V-1.

TABLE IV-1

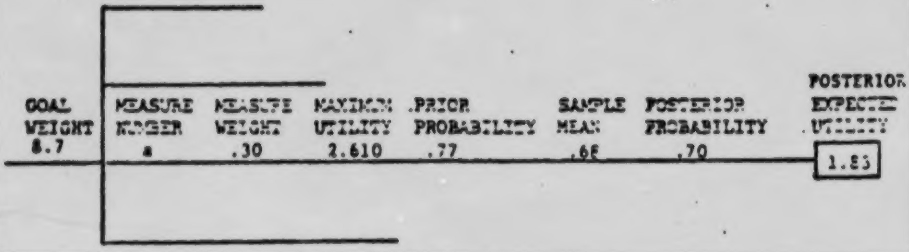
SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NO. 4	Foster extensive community and institutional outreach	GOAL WEIGHT 8.7
MEASURE NO. a	The extent to which college administrators are familiar with WINNERS	MEASURE WEIGHT .30

BRIEF DESCRIPTION OF RESULTS

A sample of 25 institutions of post-secondary education was selected. It was found that 17 out of the 25 were familiar with WINNERS and 8 were not familiar. Their familiarity was based on a visit made by WINNERS liaison personnel, by correspondence or by students referred by WINNERS.

ASSUMED DISTRIBUTION	BETA/BINOMIAL										
CLASSIFICATION											
PARAMETERS	p	q	N	Mean							
PRIOR PROBABILITY	6.02	1.75	7.77	Prior Mean	.77						
SAMPLE DATA	17	8	25	Sample Mean	.68						
POSTERIOR PROBABILITY	23.02	9.75	32.77	Posterior Mean	.70						
MAXIMUM UTILITY	2.610										
POSTERIOR EXPECTED UTILITY	(.70) x (2.610) = 1.83										


GOAL WEIGHT
8.7
MEASURE NUMBER
a
MEASURE WEIGHT
.30
MAXIMUM UTILITY
2.610
PRIOR PROBABILITY
.77
SAMPLE MEAN
.68
POSTERIOR PROBABILITY
.70
POSTERIOR EXPECTED UTILITY
1.83

Analysis of Results for Measure b

Prior Probability. When a measure yields data which fall into multiple categories, the best known probability distribution type is the Dirichlet-multinomial. Measure b is a good example. The program director was interested in finding out the geographical distribution of WINNERS' clients. She and her staff had various utility distributions for different communities. There was also a "best guess" with 50 percent probability interval for each residential category.

For Measure b, there were five major categories of client's residence. The program director had different utilities for each community and also a prior judgment about the probability of clients from each one of the five residential categories. Her belief for each category was as follows:

	Best Guess	50 Percent Interval
Roxbury	.40	.35-.45
Dorchester	.20	.15-.20
Mattapan	.20	.15-.20
Boston	.15	.10-.20
Other	.05	.03-.07

Given the above parameters, the computer program provided a total hypothetical sample of 40. The computer also divided this hypothetical sample into the following hypothetical numbers of clients per category:

Roxbury $n_1' = 15.5$; Dorchester $n_2' = 8.0$; Mattapan $n_3' = 8.0$; Boston $n_4' = 6.13$; and Other $n_5' = 2.38$.

Data Collection. A sample of 362 client records was examined to determine client's residential community. The following numbers were recorded:

Roxbury	$n_1 = 78$
Dorchester	$n_2 = 117$
Mattapan	$n_3 = 38$
Boston	$n_4 = 77$
Other	$n_5 = 52$
Total	$N = 362$

Posterior Probability and Utility. The resulting posterior distribution (n") is the sums of the number of individuals from the prior samples and the data samples falling into each one of the five categories (n' + n).

Roxbury	$n_1'' = 15.5 + 78 = 93.5$
Dorchester	$n_2'' = 8.0 + 117 = 125$
Mattapan	$n_3'' = 8.0 + 38 = 46$
Boston	$n_4'' = 6.13 + 77 = 83.13$
Other	$n_5'' = 2.38 + 52 = 54.38$
	$N'' = 40 + 362 = 402$

The mean for each category is the percentage of the population that falls into each category.

Roxbury $m''_1 = \frac{93.5}{402} = .232 = 23$ percent

Dorchester $m''_2 = \frac{125}{402} = .311 = 31$ percent

Mattapan $m''_3 = \frac{46}{402} = .114 = 11$ percent

Boston $m''_4 = \frac{54.38}{402} = .207 = 21$ percent

Other $m''_5 = \frac{54.38}{402} = .135 = 14$ percent

To get the posterior expected utility, one must take the five utility values (0 to 1) given by the decision maker for the five categories and multiply each by the mean for that category. (Bear in mind that the decision maker's utility values expressed the value to her of having WINNERS' clients from one community or another.)

$$\text{Posterior Estimate} = (m''_1)(1.0) + (m''_2)(1.0) + (m''_3)(0.8) + (m''_4)(0.6) + (m''_5)(0.4)$$

$$= (.232)(1.0)+(.311)(1.0)+(.114)(0.8)+(.207)(0.6)+(.135)(0.4)$$

$$\text{Posterior Estimate} = .8124$$

In order to calculate the posterior expected utility (observed level of outcome attainment), one multiplies the posterior estimate by the maximum utility.

$$\text{Expected Utility} = (.8124) \times (2.175) = 1.76$$

One can summarize the analysis of Measure b by stating that 81 percent of the outcome was attained. This is because the proportion of clients from outside Roxbury and Dorchester was higher than the level most valued by the program director. The summary of this analysis is displayed in Table IV-2.

Analysis of Results for Measure c

Prior Probability. "The number of outreach contacts per month made with educational institutions" is the attribute being measured in Measure c. For any measure yielding continuous results (with reasonable assumption of normality), the appropriate family of distributions is the normal family. Based upon the program director's best guess of 18 outreach contacts per month and 50 percent probability interval of 16 to 20, a hypothetical sample size of 1.02 (months) was generated by the computer.[10] Because these data are normally distributed, the best guess of the decision maker, 18, is retained as a prior mean; the computer gives the sample size only (in order to properly weight the prior data).

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[10] The analysis was done as if the standard deviation of the population was known.

TABLE IV-2

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NO. 4	Foster extensive community and institutional outreach	GOAL WEIGHT 8.7
MEASURE NO. 6	Geographical distribution of clients	MEASURE WEIGHT .25

BRIEF DESCRIPTION OF RESULTS

65% of the clients come from Dorchester, Roxbury and Mattapan. There has been an increase in the number of clients coming from communities such as Cambridge, different areas of Boston and Allston. Over 80 percent of the outcome was attained.

ASSUMED DISTRIBUTION	DIRICHLET/MULTINOMINAL					
CLASSIFICATION	Roxbury	Dorchester	Mattapan	Boston	Other	
PARAMETERS	X1	X2	X3	X4	X5	
PRIOR PROBABILITY	15.5	8	8	6.13	2.38	N'= 40
SAMPLE DATA	78	117	38	77	57	N =362
POSTERIOR PROBABILITY	93.5	125	46	83.13	54.38	N"=402
CATEGORICAL POSTERIOR MEAN	.232	.311	.114	.207	.135	
POSTERIOR SCALED UTILITY	.232	.311	.0912	.1242	.054	=.8124
POSTERIOR EXPECTED UTILITY	.8124 x 2.175 = 1.76					

GOAL WEIGHT	MEASURE NUMBER	MEASURE WEIGHT	MAXIMUM UTILITY	POSTTRIOR SCALED UTILITY	POSTERIOR EXPECTED UTILITY
8.7	6	.25	2.175	.8124	1.76

Data Collection. During the observation period of nine months, the number of outreach contacts made by the WINNERS liaison person was monitored. Based upon this sample of nine months, the average number of outreach contacts per month was 17.44.

Posterior Probability and Utility. The posterior estimate can be calculated from the mean of the distribution (17.44) and the posterior sample size (nine months). While the posterior sample size is equal to the sum of the prior sample and the actual size (1.02 + 9 = 10.02), the posterior mean must be calculated by the Bayes theorem presented previously.

$$\text{Posterior Mean} = \frac{(\text{Prior N})(\text{Prior Mean}) + (\text{Sample N})(\text{Sample Mean})}{(\text{Prior N}) + (\text{Sample N})}$$

$$\text{Posterior Mean} = \frac{(1.02)(18) + (9)(17.44)}{1.02 + 9} = 17.5$$

By examining the scaled utility associated with the mean, one can determine the posterior scaled utility. In this case, 17.5 outreach contacts produce .7 utility for the program director. (Twenty-five contacts produce a maximum utility of 1.0.) This scaled utility of .7 times the maximum utility of 2.175 is equal to a posterior expected utility of 1.522. The level of attainment on this measure was 70 percent. For a summary of the results and data analysis, see Table IV-3.

TABLE IV-3

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NO. 4	Staff to develop a strong commitment to the program	GOAL WEIGHT 7.0
MEASURE NO. c	Self evaluation of the staff	MEASURE WEIGHT .20

BRIEF DESCRIPTION OF RESULTS

Outreach contacts by WINNERS were recorded for 9 months. This goal was attained by 70 percent.

ASSUMED DISTRIBUTION	NORMAL											
CLASSIFICATION												
PARAMETERS	n	m										
PRIOR PROBABILITY	1.02	18										
SAMPLE DATA	9	17.44										
POSTERIOR PROBABILITY	10.02	17.5										
MAXIMUM UTILITY	2.175											
POSTERIOR SCALED UTILITY	.7											
POSTERIOR EXPECTED UTILITY	.7 x 2.175 = 1.522											

GOAL WEIGHT	MEASURE NUMBER	MEASURE WEIGHT	MAXIMUM UTILITY	PRIOR MEAN	SAMPLE MEAN	POSTERIOR SCALED UTILITY	POSTERIOR EXPECTED UTILITY
8.7	c	.25	2.175	18	17.44	.7	1.522

Analysis of Results for Measure d

Because this measure also yields continuous data, Measure d is analyzed in the same way as Measure c. Results are summarized in Table IV-4.

Tree Diagram for Goal 4

The charts in Tables IV-1 through IV-4 summarize the results for individual measures. The tree diagram in Figure V-4 summarizes the results for an individual goal, Goal 4. This tree diagram displays the analysis explained in previous pages. Moving from left to right, the tree diagram shows the goal being broken down.

The first column shows the importance weight of the goal which is 8.7 points (out of 100). The second column represents the first branches of the tree, the four measures. The third column represents the maximum possible contribution from the highest possible results of a given measure; this value is known as the "maximum utility." The maximum utility score for each measure is equal to the measure's relative weight, times the importance weight for the overall goal. The maximum utility reflects that portion of the utility for the overall goal associated with the measure. The fifth column is used only when prior probabilities are to be combined with observed data to form posterior probabilities. It displays the prior probability given by the decision maker, after the "best guess" has been assigned a hypothetical value and prior

TABLE IV-4

SUMMARY OF RESULTS AND DATA ANALYSIS		
GOAL NO. 4	Foster extensive community and institutional outreach	GOAL WEIGHT 8.7
MEASURE NO. d	Number of volunteers per year	MEASURE WEIGHT .25

BRIEF DESCRIPTION OF RESULTS

Everybody at WINNERS expressed a need for volunteers. In the clients' survey, there were many clients who were willing to volunteer. However, there were only 3 volunteers in 1976/1977 and 4 volunteers during the current year. This outcome was attained only by 15 percent.

ASSUMED DISTRIBUTION	NORMAL											
CLASSIFICATION												
PARAMETERS	n	m										
PRIOR PROBABILITY	.056	4										
SAMPLE DATA	2	3.51										
POSTERIOR PROBABILITY	2.056	3.51										
MAXIMUM UTILITY	1.74											
POSTERIOR SCALED UTILITY	.15											
POSTERIOR EXPECTED UTILITY	.15 x 1.74 = 3.26											

GOAL WEIGHT	MEASURE NUMBER	MEASURE WEIGHT	MAXIMUM UTILITY	PRIOR MEAN	SAMPLE MEAN	POSTERIOR SCALED UTILITY	POSTERIOR EXPECTED UTILITY
8.7	d	.25	1.74	4	3.51	.15	.326

FIGURE IV-4

TREE DIAGRAM GOAL NO. 4

	MEASURE	MEASURE WEIGHT	MAXIMUM UTILITY	PRIOR PROBABILITY	SAMPLE DATA	POSTERIOR PROBABILITY	POSTERIOR EXPECTED UTILITY
GOAL WEIGHT 8.7	a	.30	2.610	.77	.68	.70	1.830
	b	.25	2.175	N_1 = 15.5 N_2 = 8 N_3 = 8 N_4 = 6.13 N_5 = 2.38	N_1 = 78 N_2 = 117 N_3 = 38 N_4 = 77 N_5 = 52	.81	1.760
	c	.25	2.175	18	17.44	.70	1.522
	d	.20	1.740	4	3.51	.15	0.326
			8.700				5.438

probability has been calculated. Prior probability is presented as a percentage in the case of a Beta-binomial distribution, as the mean value for normal distribution, and as a series of categorical means for the Dirichlet-multinomial distribution.

The sixth column represents the mean value of the result collected. The results are displayed in the same way as the prior probability values. The seventh column represents the posterior probability, which is the result of the revision of the prior probability in the list of the data collected. The eighth column represents the *actual utility value* for the results of each measure; this value is known as the *posterior expected utility*. It is obtained by multiplying the posterior probability by the maximum utility.

In the lower right-hand corner, the sum of the posterior expected utilities is shown. This value (5.438) is the expected utility for the overall goal. In other words, out of a possible overall goal utility of 8.7, a utility of 5.438 was attained. By dividing the maximum utility (8.7) into the expected utility (5.438), one can determine the percentage of goal attainment (62 percent).

DATA ANALYSIS WITHOUT PRIOR PROBABILITIES

For the reasons given previously, the remaining goals will be analyzed without the use of prior probabilities. Because no prior beliefs were integrated into the data analysis, the computation of the expected utility relies solely on the data collected and the utility assigned by the decision maker to various possible outcomes.

The results of all measures for each goal are summarized in a series of charts. The format of these charts, and the relatively simple process of analyzing data without priors, are explained in the following remarks.

(1) Goal Number, Goal Weight: The goal number merely provides a numerical label for the stated goal. The relative weight of the goal with respect to the entire set of goals is expressed in the goal weight.

(2) Measure, Relative Weight, Maximum Utility: Measure is the identifying label for each measure. Relative weight describes the relative importance of each measure to the overall goal. The maximum utility score for each measure is equal to the relative importance weight of the measure times the utility weight for the overall goal. The maximum utility reflects that portion of the utility for the overall goal associated with each measure.

(3) Utility of Outcome: This section indicates the utility of the decision maker for various possible outcomes of the measure. The utility values are scaled so that 0 is the minimum value and 1 is the maximum. For Beta-binomial measures, the decision maker is asked to state his/her utility value for representative possible values of

percentage of the population falling into one of the two possible categories of response. Since the percentage in the remaining category is totally dependent upon the first category, one need not elicit a utility scale on the other category. For the Dirichlet-multinomial measures, the utility of each category is elicited. Finally, for the normal distribution measures, the decision maker is asked for the utility associated with potential outcomes for various possible values of the population mean.

(4) Assumed Distribution: The assumed distribution refers to the appropriate distribution to be used for the analysis.

(5) Results, Maximum Utility, Expected Utility: This section describes the outcome for each measure. It also displays the value of the maximum utility (as described previously), as well as the expected utility (which will be defined later).

In measures where the Beta-binomial model is used, the observed distribution is defined by the values of p (frequency in category of interest) and q (frequency in remaining category). The sum of the two parameters is equal to N, total number of observations. The mean (or expected value) of the distribution is the observed value, which is an estimate for the population sampled. In order to calculate the expected utility, one first examines the utility function expressed by the decision maker to locate the utility associated with the value of the deserved mean or expected value. Since the utility function is on a scale from 0 to 1, this value is referred to as the scaled expected utility. To calculate the expected utility, one merely multiplies the scaled expected utility times the maximum utility.

For the Dirichlet-multinomial examples, the observed distribution is described by the observed number of individuals falling into each of the categories. This mean for each category is an estimate of the percentage of the population that falls into each of the categories. The categorical utility is the value (scaled from 0 to 1) that the decision maker has assigned to each category. In order to calculate the expected categorical utility, one multiplies the mean for each category times the categorical utility. The expected utility is equal to the sum of all the expected categorical utilities.

For the normal distribution examples, the observed distribution can be described in terms of the mean of the distribution and the sample size. The expected utility is calculated by first examining the utility function for the scaled utility associated with the mean. This scaled utility times the maximum utility is equal to the expected utility.

The previous section described the charts summarizing results for each measure. The following paragraphs describe the tree diagrams which summarize the results for each goal. Please refer to Figure V-5 as an example.

The tree diagram is the same as the diagram discussed for Goal 4. Since no prior probabilities were used in the analysis, certain columns are changed. The first four columns remain the same: Goal Weight, Measure, Measure Weight, and Maximum Utility.

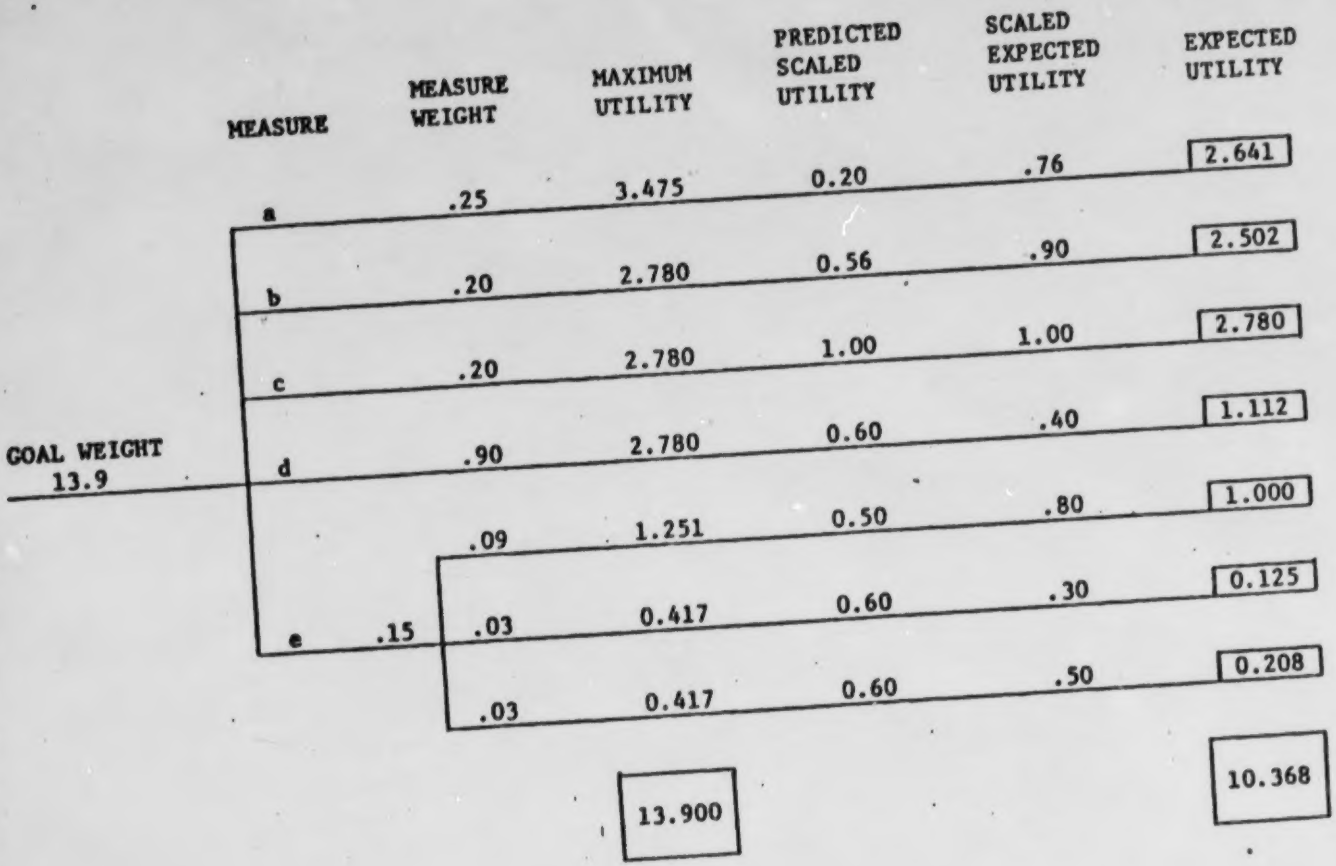
The fifth column, Predicted Scaled Utility, displays the utility associated with the decision maker's "best guess," without assigning a hypothetical mean or sample size by computer. For example, if the program director's best guess were 75 visits, the associated utility would be equal to .2. This value of .2 can be compared with the scaled expected utility which is based on the observed data. This provides the decision maker with a straight comparison of the utility of his or her best guess and the unrevised (uncombined) expected utility. ✓

The sixth column, Scaled Expected Utility, displays the utility associated with the observed data.

The last column, the Expected Utility, represents the proportion of the maximum utility which was, in fact, attained.

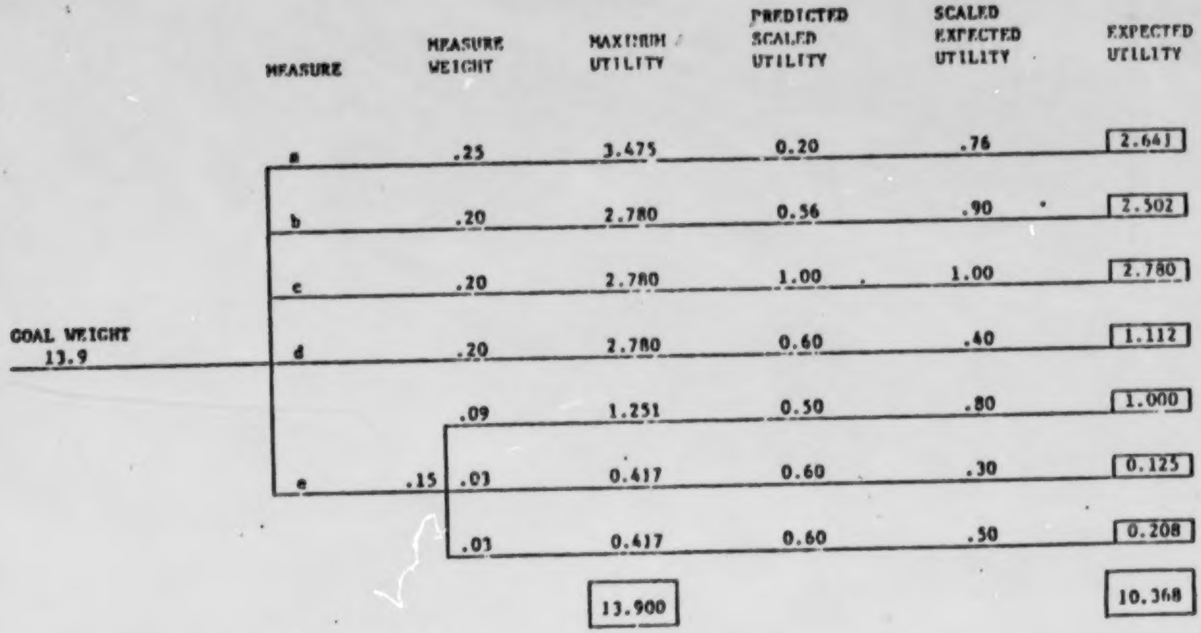
FIGURE IV-5

TREE DIAGRAM



GOAL WEIGHT	MEASURE	MEASURE WEIGHT		MAXIMUM UTILITY	PREDICTED SCALED UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
13.9	a	.25		3.475	0.20	.76	2.641
	b	.20		2.780	0.56	.90	2.502
	c	.20		2.780	1.00	1.00	2.780
	d	.90		2.780	0.60	.40	1.112
	e	.15	.09	1.251	0.50	.80	1.000
			.03	0.417	0.60	.30	0.125
			.03	0.417	0.60	.50	0.208
				13.900			10.368

TREE DIAGRAM GOAL NO. 1



MEASURE	MEASURE WEIGHT		MAXIMUM UTILITY	PREDICTED SCALED UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
a	.25		3.475	0.20	.76	2.641
b	.20		2.780	0.56	.90	2.502
c	.20		2.780	1.00	1.00	2.780
d	.20		2.780	0.60	.40	1.112
		.09	1.251	0.50	.80	1.000
e	.15	.03	0.417	0.60	.30	0.125
		.03	0.417	0.60	.50	0.208
			13.900			10.368

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 1	Develop greater credibility with funding sources	GOAL WEIGHT 13.9
MEASURE a RELATIVE WEIGHT 0.25	Number of visits per month	MAXIMUM UTILITY 3.475

UTILITY OF OUTCOME	0.0	0.2	0.4	0.6	0.8	1.0				
NUMBER OF VISITS PER MONTH	50	75	100	125	150	175				

ASSUMED DISTRIBUTION	NORMAL		
RESULTS (TOTAL N= 19)	2,765 client visits for 19 months		
MEAN ($\bar{X} = \frac{\Sigma X}{N}$)	145.5 client visits per month		
EXPECTED UTILITY	2.668	MAXIMUM UTILITY	3.475

BRIEF DESCRIPTION OF RESULTS:

Total number of visits were recorded from July 1976 to January 1978. The total number for this period was 2,765 visits. It was divided by 19 months and the average number of clients per month is 145.5. The appropriate utility for 145.5 is 0.768. This utility of 0.768 was multiplied by the maximum utility to determine the extent of outcome attainment. 78 percent of this outcome was attained.

GOAL NO. 1	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
	a	13.9	x	.25	=	3.475	.76	2.668

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 1	Develop greater credibility with funding sources	GOAL WEIGHT 13.9
MEASURE b RELATIVE WEIGHT .20	Average cost per client visit per year	MAXIMUM UTILITY 2.78

UTILITY OF OUTCOME	0.0	0.2	0.4	0.8	1.0					
AVERAGE COST PER CLIENT VISIT PER YEAR	$250	$200	$150	$100	$75					

ASSUMED DISTRIBUTION	NORMAL
RESULTS (TOTAL N= 2)	2 years were studied
MEAN ($\bar{X} = \frac{\Sigma X}{n}$)	$86.59 average cost per client visit
EXPECTED UTILITY	2.513
MAXIMUM UTILITY	2.780

BRIEF DESCRIPTION OF RESULTS:

Total budget for fiscal year was divided by the number of client visits to determine the average cost per visit per year.

$$1976/1977 - \frac{\text{Total budget}}{\text{Total number of visits}} = \frac{149.830}{1,729} = \$86.65$$

$$1977/1978 - \frac{\text{Total budget for 7 months}}{\text{Number of visits for 7 months}} = \frac{89.740}{1,037} = \$86.53$$

$$\text{Average cost} = \frac{86.65 + 86.53}{2} = \$86.59$$

This outcome was attained by 90 percent of its possible utility.

GOAL NO. 1	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
	b	13.9	x	.20	=	2.780	.90	2.513

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 1	Develop greater credibility with funding sources	GOAL WEIGHT 13.9
MEASURE NO. c RELATIVE WEIGHT .20	Percentage of clients enrolled or successfully completing their educational training	MAXIMUM UTILITY 2.78

UTILITY OF OUTCOME	0.0	0.2	0.4	0.6	0.8	1.0				
PERCENTAGE OF CLIENTS ENROLLED OR SUCCESSFULLY COMPLETING THEIR EDUCATIONAL TRAINING	0	10	20	30	40	50				

ASSUMED DISTRIBUTION	BETA BINOMIAL					
PARAMETERS	p	q	n	MEAN	MAXIMUM UTILITY	2.78
RESULTS	52	26	78	.66	EXPECTED UTILITY	2.78

BRIEF DESCRIPTION OF RESULTS:

Information was available for 1978 follow-up records. The sample showed the following: 46 clients were enrolled; 8 clients have graduated; and 26 clients withdrew from the program. For the data analysis, enrollees and graduates were considered successful. Since 50 percent enrollment provides a maximum utility of 1, the outcome was totally attained.

GOAL NO.	MEASURE NO.	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SAMPLE MEAN	EXPECTED UTILITY
1	c	13.9	x	.20	=	2.780	.66	2.780

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 1	Develop greater credibility with funding sources	GOAL WEIGHT 13.9
MEASURE d RELATIVE WEIGHT .20	Number of contracts signed with colleges and universities for providing WINNERS services to them	MAXIMUM UTILITY 2.78

UTILITY OF OUTCOME	0.0	0.2	0.4	0.6	0.8	1.0				
NUMBER OF CONTRACTS SIGNED WITH COLLEGES AND UNIVERSITIES FOR PROVIDING WINNERS SERVICES TO THEM	1	2	3	4	5	6				

ASSUMED DISTRIBUTION	NORMAL		
RESULTS (TOTAL N= 2)	Total of 4 contracts were signed in 2 years		
MEAN ($\bar{X}= \frac{\Sigma X}{n}$)	2 contracts		
EXPECTED UTILITY	1.112	MAXIMUM UTILITY	2.78

BRIEF DESCRIPTION OF RESULTS:

Two contracts were signed last year and two contracts this year. However, WINNERS is in the process of being considered by Fisher Junior College and Suffolk University.

GOAL NO.	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
1	d	13.9	x	.20	=	2.780	.40	1.112

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 1	Develop greater credibility with funding sources	GOAL WEIGHT 13.9
MEASURE e1 RELATIVE WEIGHT .09	Number of government contracts received	MAXIMUM UTILITY 1.251

UTILITY OF OUTCOME	0.0	0.5	0.8	0.9	1.0					
NUMBER OF GOVERNMENT CONTRACTS RECEIVED	0	1	2	3	4					

ASSUMED DISTRIBUTION	NORMAL		
RESULTS (TOTAL N= 2)	Total of 4 contributors in two years		
MEAN ($\bar{X} = \frac{\Sigma X}{N}$)	2 contracts		
EXPECTED UTILITY	1.000	MAXIMUM UTILITY	1.251

BRIEF DESCRIPTION OF RESULTS:

One major contribution from HEW during the last fiscal year and three government contracts for the current year. A grant from HEW, a grant from the Department of Education, State of Massachusetts, and from the City of Boston. Therefore, 80 percent of the outcome was attained.

GOAL NO. 1	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
	e	13.9	x	.09	=	1.251	.80	1.000

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 1	Develop greater credibility with funding sources								GOAL WEIGHT 13.9	
MEASURE e2 RELATIVE WEIGHT .03	Number of contributions made by foundations (defined as $1,000 — $10,000)								MAXIMUM UTILITY .417	
UTILITY OF OUTCOME	0.0	0.1	0.2	0.4	0.6	0.8	1.0			
NUMBER OF CONTRIBUTIONS MADE BY FOUNDATIONS (DEFINED AS $1,000 — $10,000)	0	1	2	3	4	5	6			
ASSUMED DISTRIBUTION	NORMAL									
RESULTS (TOTAL N= 2)	Total of 5 contributions were made									
MEAN $(\bar{X} = \frac{\Sigma x}{N})$	2.5 contributions									
EXPECTED UTILITY	0.125	MAXIMUM UTILITY			0.417					

BRIEF DESCRIPTION OF RESULTS:

During a period of two years, three contributions were made in 1976/1977 and two contributions for the current year. Since only 0.3 of the utility was attained, the expected utility is 0.125 or 30 percent of the possible utility.

GOAL NO.	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
1	e2	13.9	x	.03	=	0.417	.30	0.125

2

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 1	Develop greater credibility with funding sources	GOAL WEIGHT 13.9
MEASURE e3 RELATIVE WEIGHT .03	Number of contributions made by corporations (defined as below $1,000)	MAXIMUM UTILITY 0.417

UTILITY OF OUTCOME	0.0	0.4	0.6	0.8	1.0					
NUMBER OF CONTRIBUTIONS MADE BY CORPORATIONS (DEFINED AS BELOW $1,000)	0	2	4	8	10					

ASSUMED DISTRIBUTION	NORMAL		
RESULTS (TOTAL N= 2)	5 contributions were made in two years		
MEAN ($\bar{X} = \frac{\Sigma x}{N}$)	2.5 contributors		
EXPECTED UTILITY	0.208	MAXIMUM UTILITY	0.417

BRIEF DESCRIPTION OF RESULTS:

Three contributions were made during 1976/1977. The contributers were Boston Gas Company, Bell of New England and Polaroid Corporation. This year only two contributions were made. However, some applications are in the process and further contributions might be made.

GOAL NO.	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
1	e3	13.9	x	.03	=	0.417	.50	0.208

DISCUSSION OF RESULTS

GOAL NO. 1

At present, the most important goal for WINNERS is to develop greater credibility with funding sources. This emphasis on credibility and accountability is vital. For the last five years, WINNERS has been supported primarily by FIPSE. The current year is the last one for financial support from FIPSE; survival is therefore a major concern for WINNERS. Unless new funds from other sources are attracted, WINNERS will find itself in serious difficulty. Thus, the emphasis given to Goal 1 is real and justifiable.

During the evaluation period, the program director and the development officer spent a great deal of time planning and implementing their fund-raising activities. Two accomplishments were recorded during the past year. The first was the award of a grant from the State of Massachusetts Department of Education. The aim of this grant is to support a new program designed by WINNERS in collaboration with Northeastern University. WINNERS is responsible for the recruitment of 20 low-income women for an educational program designed to train dental assistants. Under the contract terms with Northeastern University, WINNERS will provide screening, counseling, tutoring, and skill-building workshops before and during the training program, which is to be offered by Northeastern. The second grant ($9,000) was awarded by the Associated Foundations in support of a summer program for high school students, and a third grant of $50,000 for operational expenses from the city of Boston.

In its attempt to improve its financial condition, WINNERS established a policy of charging a registration fee of $10 for new clients, and $5 for continuing clients. This policy has caused continuous controversy since its adoption. Some feel that WINNERS' services should be offered free of charge, while others believe that by paying $10 the client develops a stronger commitment to the program. The issue has yet to be resolved.

The first goal was measured by seven attributes. Although the predicted level of attainment was 56 percent, the observed (expected utility) level of attainment was 75 percent. The most noticeable success is reflected in the declining average cost compared to previous years, and in the relatively high percentage (66 percent) of clients who have graduated from, or are still enrolled in, one educational program or another.

The small number of contracts signed with colleges in exchange for WINNERS' services is a direct result of the financial difficulties currently faced by many junior and community colleges in the Boston area. In the course of interviews, administrators from a number of junior colleges have all recognized and praised WINNERS' vitality, but have admitted that they are unable to purchase the program's services due to their own financial straits. The low level of outcome attainment in Measure d (40 percent) is therefore a direct result of a condition shared by many colleges. WINNERS' success in obtaining three contracts from governmental agencies is reflected in the high level of outcome attainment in Measure e. HEW, the State of Massachusetts, and the City of Boston are the three sources.

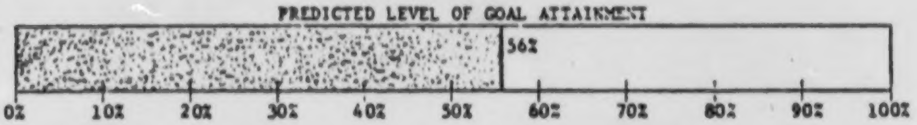
The low level of attainment of contributions from foundations and corporations is the result of two factors. The first is the fact that WINNERS' major source of funding in the past has been FIPSE; there has been little dependency on small contributions from foundations and corporations. Second, unlike a few years ago, contributions from corporations have been reduced. Perhaps the general attitude of conservatism and a decline in profits have affected the generous mood of many corporations and foundations.

WINNERS is at present aware of its potential problem and is working toward diversifying its financial sources in order to survive.

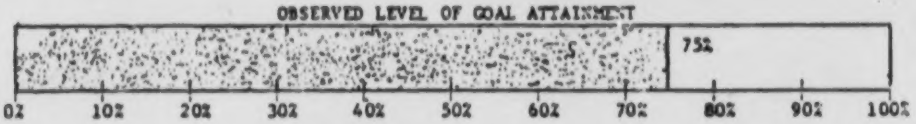
GRAPH OF GOAL ATTAINMENT — GOAL NO. 1

DEVELOP GREATER CREDIBILITY WITH FUNDING SOURCES

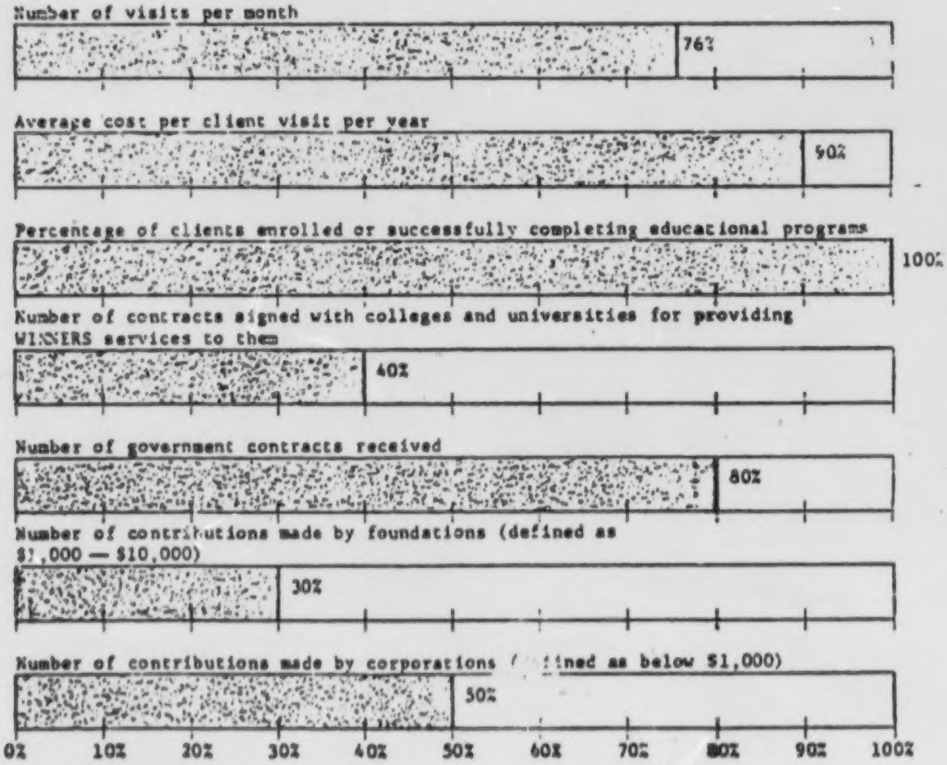
PREDICTED LEVEL OF GOAL ATTAINMENT



OBSERVED LEVEL OF GOAL ATTAINMENT



OBSERVED LEVEL OF OUTCOME ATTAINMENT ON MEASURES



TREE DIAGRAM GOAL NO. 2

GOAL WEIGHT
12.2

MEASURE NUMBER	MEASURE WEIGHT	MAXIMUM UTILITY	PREDICTED SCALED UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
a	.20	2.440	.50	.80	1.952
b	.20	2.440	.80	.67	1.634
c	.15	1.830	1.00	.84	1.546
d	.15	1.830	.90	.86	1.573
e	.15	1.830	.70	.73	1.335
f	.15	1.830	.80	.92	1.685
		12.200			9.725

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 2	Help adult women continue their education									GOAL WEIGHT 12.2
MEASURE NO. a RELATIVE WEIGHT .20	Percentage of clients referred to colleges, universities and other training programs									MAXIMUM UTILITY 2.440
UTILITY OF OUTCOME	0.0	0.2	0.4	0.8	1.0					
PERCENTAGE OF CLIENTS REFERRED TO COLLEGES, UNIVERSITIES AND OTHER TRAINING PROGRAMS	0	25	50	75	100					
ASSUMED DISTRIBUTION	BETA/BINOMIAL									
PARAMETERS	p	q	N	MEAN	MAXIMUM UTILITY	2.440				
RESULTS	74	18	92	.80	EXPECTED UTILITY	1.952				

BRIEF DESCRIPTION OF RESULTS:

Out of the total 100 records examined, 74 clients were referred, 18 were not referred and 8 clients had no information. The sample size for the analysis was 92 (74 + 18). Only 80 percent.

GOAL NO.	MEASURE NO.	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
2	a	12.2	x	.20	=	2.440	.80	1.952

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 2	Help adult women continue their education	GOAL WEIGHT 12.2
MEASURE NO. b RELATIVE WEIGHT .20	Percentage of clients accepted to educational programs	MAXIMUM UTILITY 2.440

UTILITY OF OUTCOME	0.0	0.3	0.5	0.6	0.7	0.8	0.9	1.0		
PERCENTAGE OF CLIENTS ACCEPTED TO EDUCATIONAL PROGRAMS	20	30	40	50	60	70	80	100		

ASSUMED DISTRIBUTION	BETA/BINOMIAL

PARAMETERS	p	q	N	MEAN	MAXIMUM UTILITY	2.44
RESULTS	33	16	49	.67	EXPECTED UTILITY	1.634

BRIEF DESCRIPTION OF RESULTS:

As a result of the telephone survey it was found that 33 clients were accepted to educational programs or training and 16 clients were not accepted. Therefore, the level of goal attainment is 67 percent.

GOAL NO.	MEASURE NO.	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
2	b	12.2	x	.20	=	2.440	.67	1.634

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 2	Help adult women continue their education				GOAL WEIGHT 12.2
MEASURE c RELATIVE WEIGHT .15	The extent to which WINNERS is helpful in assisting its clients make career choices				MAXIMUM UTILITY 1.830
UTILITY OF OUTCOME	0.0	0.4	0.6	0.8	1.0
THE EXTENT TO WHICH WINNERS IS HELPFUL IN ASSISTING ITS CLIENTS MAKE CAREER CHOICES	1	2	3	4	5
ASSUMED DISTRIBUTION	DIRICHLET				
RESULTS (TOTAL N= 48)	1	2	8	10	27
MEAN (n/N)	.02	.04	.17	.21	.56
CATEGORICAL UTILITY	0.000	0.732	1.098	1.464	1.830
EXPECTED CATEGORICAL UTIL	0.000	0.029	0.186	0.307	1.024
EXPECTED UTILITY	1.546	MAXIMUM UTILITY		1.830	

BRIEF DESCRIPTION OF RESULTS:

Most of the clients believed that the information received from WINNERS was accurate and ehlpful to them. Out of a total sample of 48, 45 responded positively (see categories above). In regard to WINNERS' ability to assess their needs, 7 clients responded negatively. However, most of the clients asked strongly believed that their needs were effectively assessed by the counselors.

GOAL NO. 2	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
	c	12.2	x	.15	=	1.830	.84	1.546

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 2	Help adult women continue their education	GOAL WEIGHT 12.2
MEASURE NO. d RELATIVE WEIGHT .15	Client satisfaction with financial aid	MAXIMUM UTILITY 1.830

UTILITY OF OUTCOME	0.0	1.0								
CLIENT SATISFACTION WITH FINANCIAL AID	No	Yes								

ASSUMED DISTRIBUTION	BETA/BINOMINAL					
PARAMETERS	p	q	N	MEAN	MAXIMUM UTILITY	1.830
RESULTS	63	11	76	.86	EXPECTED UTILITY	1.573

BRIEF DESCRIPTION OF RESULTS:

86 percent of the clients were satisfied with WINNERS assistance in financial aid. Although financial aid is not offered by WINNERS, the counselors try to identify as many sources as possible and assist clients in applying for financial aid.

GOAL NO. 2	MEASURE NO. d	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
		12.2	x	.15	=	1.830	.86	1.573

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 2	Help adult women continue their education							GOAL WEIGHT 12.2		
MEASURE NO. e RELATIVE WEIGHT .15	The extent to which client's expectations about education are met							MAXIMUM UTILITY 1.830		
UTILITY OF OUTCOME	0.0	1.0								
THE EXTENT TO WHICH CLIENT'S EXPECTATIONS ABOUT EDUCATION ARE MET	No	Yes								
ASSUMED DISTRIBUTION	BETA/BINOMIAL									
PARAMETERS	p	q	N	MEAN		MAXIMUM UTILITY			1.830	
RESULTS	51	19	70	.73		EXPECTED UTILITY			1.335.	

BRIEF DESCRIPTION OF RESULTS:

Although 51 clients believed that their expectations about education have been met, there were 19 clients who felt that expectations about education were not met. Out of these 19 clients, 9.6 percent of the clients complained that lack of day care facilities was the major reason, 6 percent because school was too far, 4.8 percent found the courses difficult, 7.2 percent felt that the classes were boring, and 20.5 percent were not satisfied with financial aid.

GOAL NO. 2	MEASURE NO. e	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
		12.2	x	.15	=	1.830	.73	1.335

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 2	Help adult women continue their education				GOAL WEIGHT 12.2
MEASURE f RELATIVE WEIGHT .15	The extent to which WINNERS has been able to meet client needs				MAXIMUM UTILITY 1.830
UTILITY OF OUTCOME	0.0	0.4	0.6	0.8	1.0
THE EXTENT TO WHICH WINNERS HAS BEEN ABLE TO MEET CLIENT NEEDS	1	2	3	4	5
ASSUMED DISTRIBUTION	DIRICHLET				
RESULTS (TOTAL N= 48)	4	2	10	8	24
MEAN (n/N)	.08	.04	.21	.17	.50
CATEGORICAL UTILITY	0.000	0.732	1.098	1.464	1.830
EXPECTED CATEGORICAL UTIL	0.000	0.292	0.230	0.248	0.915
EXPECTED UTILITY	1.685	MAXIMUM UTILITY		1.830	

BRIEF DESCRIPTION OF RESULTS:

50 percent of the clients believes that their individual needs and goals were met by WINNERS' services. On the whole, the outcome was attained by about 92 percent.

GOAL NO. 2	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
	f	12.2	x	.15	=	1.830	.92	1.685

DISCUSSION OF RESULTS

GOAL NO. 2

Goal 2 is concerned with WINNERS' basic purpose: to help adult women continue their education. If the program were financially secure, this goal would perhaps be the most important; in fact, the relative importance weight for this goal is very close to Goal 1. Whereas Goal 1 received 13.9 points, Goal 2 scored 12.2 points out of 100. The difference of a mere 1.7 points between these two goals indicates the importance of both. Six attributes were developed in order to measure the overall level of goal attainment. All attributes are concerned with the clients, some attributes were measured using existing information in WINNERS' files and others using selected samples of the client population. The director of the program predicted a 77 percent level of attainment, but when the data were aggregated across the six measures, the observed (expected utility) level of attainment was 80 percent. The reason for this high score was the overwhelmingly positive response of the clients.

For Measure a, the number of referrals made by counselors was higher than that predicted before the data was collected. Eighty percent of the sample examined had been referred to institutes of post-secondary education. Although not every client referred actually follows the advice of the counselor, this figure still indicates that the program was able to recommend a suitable institution in a high percentage of cases. An almost equal percentage — 75 percent of the clients referred — felt that the information they had received from their counselor was adequate. The outcome on this measure could be 100 percent, if the decision maker determined that 80 percent referral equalled maximum utility.

Clients come to WINNERS for various reasons. Some come because they believe the program is a welfare agency. But the concept of WINNERS' role has been greatly extended; in the opinion of the program director, any client who comes to WINNERS for educational purposes has a right to a referral. The director strongly believes that no client should be denied aid if her desire to continue her education is made clear to the counselor.

The outcome on Measure b is troublesome, but in fact it is an outcome measure. WINNERS does all it can to help its clients, but it cannot secure admission into popular programs where the competition is keen. The response to the question asking the number of acceptances or rejections was reasonable. Out of 49 clients asked, 33 were accepted and 16 were turned down. Although 80 percent was the predicted level of attainment, the actual data indicate that 67 percent was the overall admission rate of the sample. Thus, an expected utility of 1.634 resulted, compared to a maximum possible outcome of 2.440.

The third attribute is concerned with the extent to which

WINNERS is helpful in assisting its clients making career choices. Out of 83 clients who responded to the questionnaire, 55 had chosen a career before coming to WINNERS. Of these, 72.3 percent stated that WINNERS was a crucial factor in enabling them to pursue their career choice, 31.3 percent believed that WINNERS helped them to make a decision, 13 percent answered negatively, and 49.4 percent made no response. Although an outcome level of 100 percent was predicted by the decision maker, the attained level was 84 percent.

A high level of attainment was noticed for the outcome on Measure d. Eight-six percent of the clients stated their satisfaction with WINNERS' role in helping them to identify financial sources and to apply for financial aid.

The outcome obtained for Measure e is of great interest. Of all the clients asked, about 50 percent stated that their expectations about education were not met. In order to realize the impact of such a statement, one must take into account the difficulties these women face in trying to continue their education. Many are single parents living in communities where public transportation is not easily accessible. Moreover, returning to school after a hiatus of many years produces strain and anxiety, even though motivation was extremely high in all cases. The clients complained especially about lack of day care facilities. (As a result of this information WINNERS is studying the possibility of establishing its own day care center for its clients.) Others complained that the school was too far from their home (6 percent), that courses were difficult (48 percent), and that they had continuing financial problems (20.5 percent).

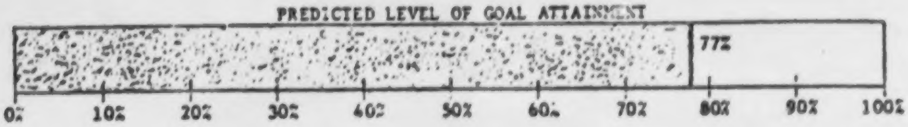
The last measure received a very high level of outcome attainment (92 percent). Most clients were extremely positive in their overall response to WINNERS' services. Here are some of the clients' statements regarding their experience with the program:

> WINNERS is a very viable resource center for the urban woman. The staff at WINNERS do all they can to help.
>
> WINNERS helped me to think positively about myself and education.
>
> Black women need to organize themselves and WINNERS is a good start.
>
> WINNERS allows women to take the opportunity to obtain education and control their future.
>
> Black people are not informed on procedures of how to go about choosing a college, and are not aware of the money available for continued education.
>
> WINNERS offers opportunity for higher education that could not be obtained otherwise.
>
> Now we cannot complain that lack of money or knowledge are the reasons for being uneducated. WINNERS helped me to develop my potential.
>
> I feel that WINNERS is an important asset to the black community because it gives black people a place to go in search of a better tomorrow. WINNERS helped me when I could not help myself. My relationship with my counselor is very good. I find that she's interested in my career and my life. She helps me with transportation, reading materials, and babysitting needs. I feel that I can go to her and talk to her about anything that bothers me.
>
> Before coming to WINNERS I had no idea of the scope of opportunities available to women.

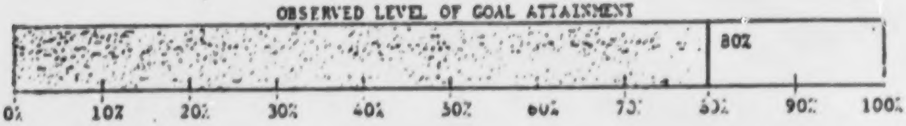
GRAPH OF GOAL ATTAINMENT — GOAL NO. 2

HELP ADULT WOMEN CONTINUE THEIR EDUCATION

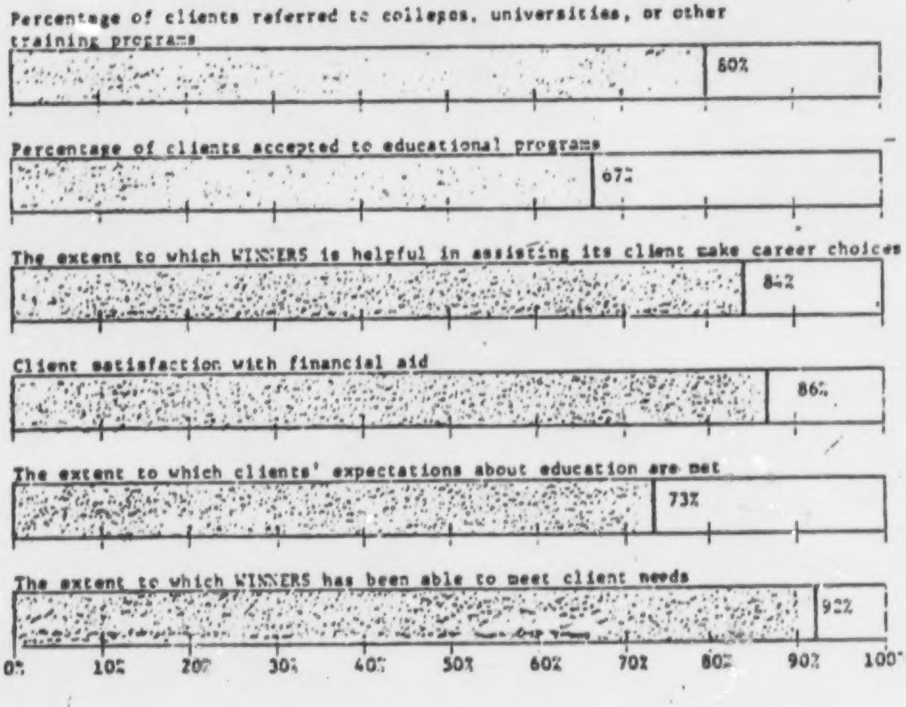
PREDICTED LEVEL OF GOAL ATTAINMENT



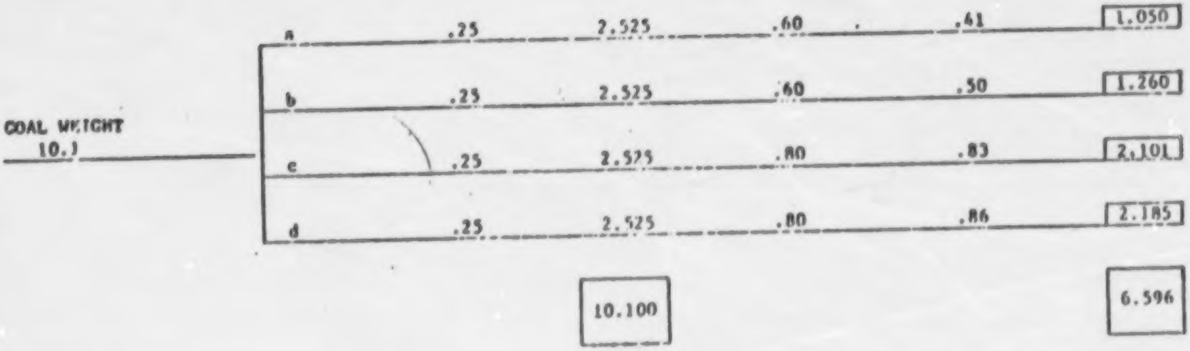
OBSERVED LEVEL OF GOAL ATTAINMENT



OBSERVED LEVEL OF OUTCOME ATTAINMENT ON MEASURES



TREE DIAGRAM GOAL NO. 3



GOAL WEIGHT 10.1

MEASURE NUMBER	MEASURE WEIGHT	MAXIMUM UTILITY	PREDICTED SCALED UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
a	.25	2.525	.60	.41	1.050
b	.25	2.525	.60	.50	1.260
c	.25	2.525	.80	.83	2.101
d	.25	2.525	.80	.86	2.185
		10.100			6.596

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 3	Provide services on campuses as well as at [illegible]	GOAL WEIGHT 10.1
MEASURE a RELATIVE WEIGHT .25	Number of workshops and seminars conducted on campuses	MAXIMUM UTILITY 2.525

UTILITY OF OUTCOME	0.0	0.2	0.4	0.6	0.8	1.0				
NUMBER OF WORKSHOPS AND SEMINARS CONDUCTED ON CAMPUSES	0	2	3	4	5	6				

ASSUMED DISTRIBUTION	NORMAL
RESULTS (TOTAL N= 2)	5 workshops were conducted in two years
MEAN ($\bar{X} = \frac{\Sigma X}{n}$)	2.5 workshops
EXPECTED UTILITY	1.030
MAXIMUM UTILITY	2.525

BRIEF DESCRIPTION OF RESULTS:

Two workshops were conducted on campuses during 1976/1977 and three workshops were conducted during 1977/1978.

GOAL NO.	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
	a	10.1	x	.25	=	2.525	.416	1.050

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 3	Provide services on campuses as well as at WINNERS	GOAL WEIGHT 10.1
MEASURE b RELATIVE WEIGHT .25	Number of skill-building workshops and seminars conducted at WINNERS per year	MAXIMUM UTILITY 2.525

UTILITY OF OUTCOME	0.0	.25	.50	.75	1.0					
NUMBER OF SKILL-BUILDING WORKSHOPS AND SEMINARS CONDUCTED AT WINNERS PER YEAR	0	4	8	12	16					

ASSUMED DISTRIBUTION	NORMAL		
RESULTS (TOTAL N= 2)	12		
MEAN $(\bar{X} = \frac{\Sigma X}{n})$	8		
EXPECTED UTILITY	1.26	MAXIMUM UTILITY	2.525

BRIEF DESCRIPTION OF RESULTS:

Four skill-building workshops were conducted during 1976/1977 and twelve were conducted during 1977/1978. The ranged from notetaking to library use. The attendance has been generally very high.

GOAL NO. 3	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
	b	10.1	x	.25	=	2.525	.5	1.260

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 3	Provide services on campuses as well as at WINNERS				GOAL WEIGHT 10.1
MEASURE c RELATIVE WEIGHT .25	The extent to which clients are satisfied with the quality of skill-building workshops				MAXIMUM UTILITY 2.525
UTILITY OF OUTCOME	0.0	0.4	0.6	0.8	1.0
THE EXTENT TO WHICH CLIENTS ARE SATISFIED WITH THE QUALITY OF SKILL-BUILDING WORKSHOPS	1	2	3	4	5
ASSUMED DISTRIBUTION	DIRICHLET				
RESULTS (TOTAL N= 23)	n=1	n=0	n=2	n=8	n=12
MEAN (n/N)	.04	0.0	.04	.36	.52
CATEGORICAL UTILITY	0.0	1.010	1.515	2.020	2.525
EXPECTED CATEGORICAL UTIL	0.0	0.0	0.061	0.727	1.313
EXPECTED UTILITY	2.101	MAXIMUM UTILITY		2.525	-

BRIEF DESCRIPTION OF RESULTS:

Out of a sample size of 49 clients there were 38 clients who have heard about the workshops and 23 have attended them. Eighty percent of those who were aware of the workshops were satisfied with the topics offered, and 75 percent were content with the choice of location and time. Eighty-three percent of the possible utility was obtained.

GOAL NO.	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
3	c	10.1	x	.25	=	2.525	.83	2.101

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 3	Provide services on campuses as well as at WINNERS				GOAL WEIGHT 10.1
MEASURE d RELATIVE WEIGHT .25	The extent to which college administrators are satisfied with WINNERS' workshops				MAX MEAS UTILITY 2.525
UTILITY OF OUTCOME	0.0	0.4	0.6	0.8	1.0
THE EXTENT TO WHICH COLLEGE ADMINISTRATORS ARE SATISFIED WITH WINNERS' WORKSHOPS	1	2	3	4	5
ASSUMED DISTRIBUTION	DIRICHLET				
RESULTS (TOTAL N= 6)	0	0	1	2	3
MEAN (n/N)	0	0	.17	.33	.50
CATEGORICAL UTILITY	0	1.010	1.515	2.020	2.525
EXPECTED CATEGORICAL UTIL	0	0	0.257	0.666	1.262
EXPECTED UTILITY	2.185	MAXIMUM UTILITY		2.525	

BRIEF DESCRIPTION OF RESULTS:
College administrators who were familiar with the workshops and have attended some, believed that more publicity and visibility is required for students to attend these workshops.

GOAL NO. 3	MEASURE # GOAL	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
	d	10.1	x	.25	=	2.525	.865	2.185

DISCUSSION OF RESULTS

GOAL NO. 3

Goal 3 is concerned with the quality of the services provided by WINNERS — both on campuses and at the program itself. Its relative importance weight is 10.1 points. Thus, its importance is on a par with the previous two goals. Although the program director predicted a level of attainment of 75 percent, the observed level was 65 percent. An actual outcome of about 50 percent on two out of four measures is the major factor.

For Measure a, WINNERS predicted four workshops a year. But only two were conducted last year and three this year; this yields a mean of only 2.5 per year. Thus, the expected utility was 40 percent of the total maximum utility on the measure.

The same problem was found in Measure b. The data yielded a 50 percent level of outcome attainment. The idea of workshops is a relatively new one. And although 16 workshops would maximize the utility, one has to take into account the amount of planning, resources, and time required for running these workshops. Operating skill-building workshops at WINNERS has a number of advantages:

(1) it is more economical than operating on campuses;

(2) it is closer to the clients' homes;

(3) it is more manageable and demands less coordination;

(4) it develops WINNERS' involvement with the community; and

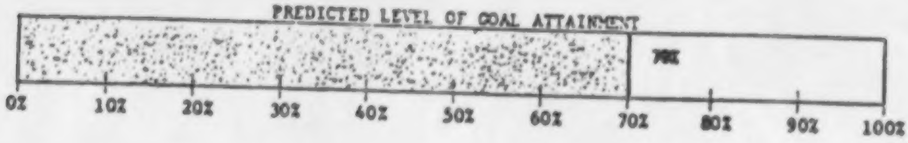
(5) it provides a warmer and more comfortable atmosphere than the campuses.

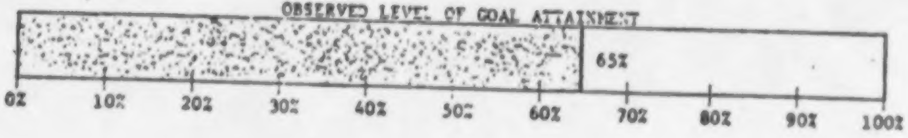
These skill-building workshops have attracted many clients now attending school. They offer students the opportunity to upgrade such skills as term paper writing, library use, and notetaking. Attendance has been high and the response very positive. Fifty-four percent of the clients asked stated that the quality and usefulness of the workshops were excellent. Twenty-five percent gave them a rating of 4 on a scale of 1 to 5. The success of these workshops has encouraged WINNERS to increase their number and broaden their range. Eighty-three percent was the observed level of attainment for this outcome.

Eighty-six percent was the level of outcome attainment for the fourth measure. In a series of interviews, 25 college administrators, were asked to give their opinions regarding the quality of the workshops offered by WINNERS. Eight administrators out of these 25 were familiar with the workshops. From these eight administrators, representing schools that work closely with WINNERS, the response was very favorable. They felt that the program was "excellent," "wonderful," and "outstanding," and added many other words of praise. Many of those who were familiar with WINNERS made suggestions — expansion of the program, additional staff, ways to reach more people, etc. However, most of the respondents also recognized that carrying out these recommendations would require more extensive and more stable sources of funding.

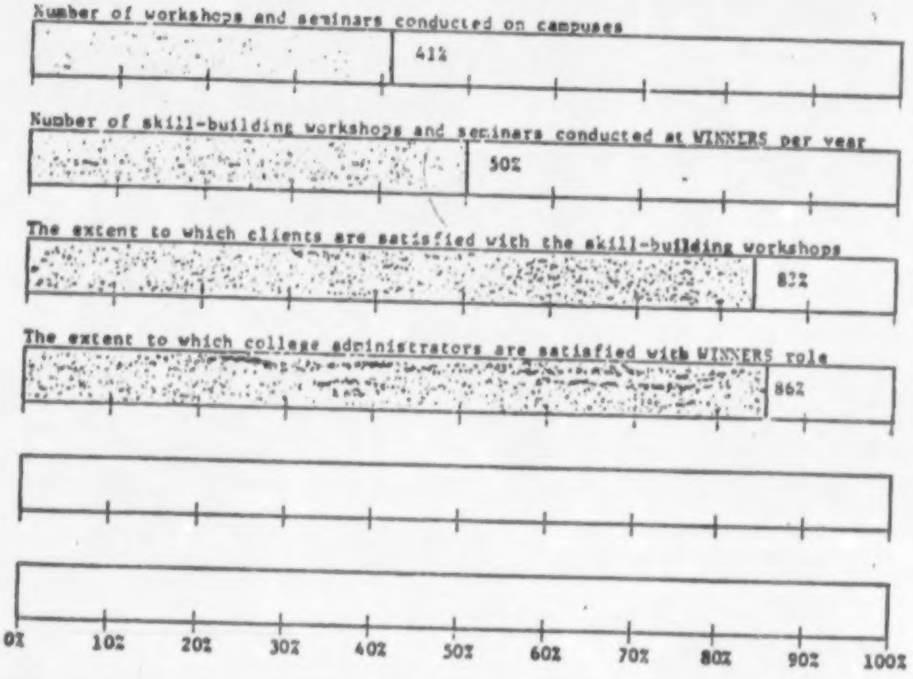
GRAPH OF GOAL ATTAINMENT — GOAL NO. 3

PROVIDE SERVICES ON CAMPUSES AS WELL AS AT WINNERS


PREDICTED LEVEL OF GOAL ATTAINMENT


OBSERVED LEVEL OF GOAL ATTAINMENT

OBSERVED LEVEL OF OUTCOME ATTAINMENT OF MEASURES



TREE DIAGRAM GOAL NO. 4

GOAL WEIGHT
8.7

MEASURE NUMBER	MEASURE WEIGHT	MAXIMUM UTILITY	PRIOR	SAMPLE	PREDICTED SCALED UTILITY	POSTERIOR SCALED UTILITY	POSTERIOR EXPECTED UTILITY
a	.30	2.610	.77	.68	.80	.70	1.83
b	.25	2.175			1.00	.81	1.76
c	.25	2.175	18	17.46	.72	.70	1.522
d	.20	1.74	4	3.51	.16	.15	0.326
		8.7					3.438

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NO. 4	Foster extensive community and institutional outreach	GOAL WEIGHT 8.7
MEASURE NO. a	The extent to which college administrators are familiar with WINNERS	MEASURE WEIGHT .30

BRIEF DESCRIPTION OF RESULTS

A sample of 25 institutions of post-secondary education was selected. It was found that 17 out of the 25 were familiar with WINNERS and 8 were not familiar. Their familiarity was based on a visit made by WINNERS liaison personnel, by correspondence or by students referred by WINNERS.

ASSUMED DISTRIBUTION	BETA/BINOMINAL											
CLASSIFICATION												
PARAMETERS	p	q	N	Mean								
PRIOR PROBABILITY	6.02	1.75	7.77	Prior Mean	.77							
SAMPLE DATA	17	8	25	Sample Mean	.68							
POSTERIOR PROBABILITY	23.02	9.75	32.77	Posterior Mean	.70							
MAXIMUM UTILITY	2.610											
POSTERIOR EXPECTED UTILITY	(.70) x (2.610) = 1.83											

GOAL WEIGHT	MEASURE NUMBER	MEASURE WEIGHT	MAXIMUM UTILITY	PRIOR PROBABILITY	SAMPLE MEAN	POSTERIOR PROBABILITY	POSTERIOR EXPECTED UTILITY
8.7	a	.30	2.610	.77	.68	.70	1.83

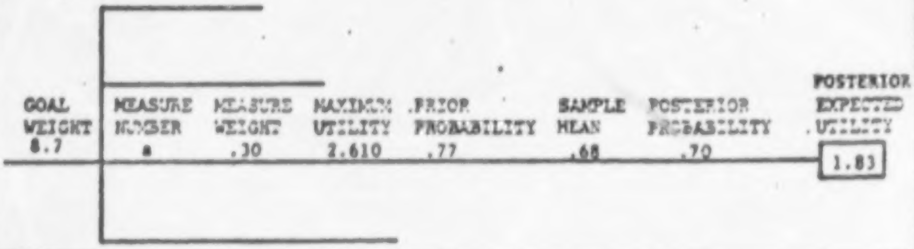
SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NO. 4	Foster extensive community and institutional outreach	GOAL WEIGHT 8.7
MEASURE NO. a	The extent to which college administrators are familiar with WINNERS	MEASURE WEIGHT .30

BRIEF DESCRIPTION OF RESULTS

A sample of 25 institutions of post-secondary education was selected. It was found that 17 out of the 25 were familiar with WINNERS and 8 were not familiar. Their familiarity was based on a visit made by WINNERS liaison personnel, by correspondence or by students referred by WINNERS.

ASSUMED DISTRIBUTION	BETA/BINOMIAL										
CLASSIFICATION											
PARAMETERS	p	q	N	Mean							
PRIOR PROBABILITY	6.02	1.75	7.77	Prior Mean	.77						
SAMPLE DATA	17	8	25	Sample Mean	.68						
POSTERIOR PROBABILITY	23.02	9.75	32.77	Posterior Mean	.70						
MAXIMUM UTILITY	2.610										
POSTERIOR EXPECTED UTILITY	(.70) x (2.610) = 1.83										


GOAL WEIGHT
8.7
MEASURE NUMBER
a
MEASURE WEIGHT
.30
MAXIMUM UTILITY
2.610
PRIOR PROBABILITY
.77
SAMPLE MEAN
.68
POSTERIOR PROBABILITY
.70
POSTERIOR EXPECTED UTILITY
1.83

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NO. 4	Foster extensive community and institutional outreach	GOAL WEIGHT 8.7
MEASURE NO. 6	Geographical distribution of clients	MEASURE WEIGHT .25

BRIEF DESCRIPTION OF RESULTS

65% of the clients come from Dorchester, Roxbury and Mattapan. There has been an increase in the number of clients coming from communities such as Cambridge, different areas of Boston and Allston. Over 80 percent of the outcome was attained.

ASSUMED DISTRIBUTION	DIRICHLET/MULTINOMINAL					
CLASSIFICATION	Roxbury	Dorchester	Mattapan	Boston	Other	
PARAMETERS	N1	N2	N3	N4	N5	
PRIOR PROBABILITY	15.5	8	8	6.13	2.38	N'= 40
SAMPLE DATA	78	117	38	77	57	N =362
POSTERIOR PROBABILITY	93.5	125	46	83.13	54.38	N"=402
CATEGORICAL POSTERIOR MEAN	.232	.311	.114	.207	.135	
POSTERIOR SCALED UTILITY	.232	.311	.0912	.1242	.054	=.8124
POSTERIOR EXPECTED UTILITY	.8124 x 2.175 = 1.76					

GOAL WEIGHT	MEASURE NUMBER	MEASURE WEIGHT	MAXIMUM UTILITY	POSTERIOR SCALED UTILITY	POSTERIOR EXPECTED UTILITY
8.7	6	.25	2.175	.8124	1.76

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NO. 4	Staff to develop a strong commitment to the program	GOAL WEIGHT 7.0
MEASURE NO. c	Self evaluation of the staff	MEASURE WEIGHT .20

BRIEF DESCRIPTION OF RESULTS

Outreach contacts by WINNERS were recorded for 9 months. This goal was attained by 70 percent.

ASSUMED DISTRIBUTION	NORMAL											
CLASSIFICATION												
PARAMETERS	n	m										
PRIOR PROBABILITY	1.02	18										
SAMPLE DATA	9	17.44										
POSTERIOR PROBABILITY	10.02	17.5										
MAXIMUM UTILITY	2.175											
POSTERIOR SCALED UTILITY	.7											
POSTERIOR EXPECTED UTILITY	.7 x 2.175 = 1.522											

GOAL WEIGHT	MEASURE NUMBER	MEASURE WEIGHT	MAXIMUM UTILITY	PRIOR MEAN	SAMPLE MEAN	POSTERIOR SCALED UTILITY	POSTERIOR EXPECTED UTILITY
8.7	c	.25	2.175	18	17.44	.7	1.522

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NO. 4	Foster extensive community and institutional outreach	GOAL WEIGHT 8.7
MEASURE NO. d	Number of volunteers per year	MEASURE WEIGHT .20

BRIEF DESCRIPTION OF RESULTS

Everybody at WINNERS expressed a need for volunteers. In the clients' survey, there were many clients who were willing to volunteer. However, there were only 3 volunteers in 1976/1977 and 4 volunteers during the current year. This outcome was attained only by 15 percent.

ASSUMED DISTRIBUTION	NORMAL											
CLASSIFICATION												
PARAMETERS	n	m										
PRIOR PROBABILITY	.036	4										
SAMPLE DATA	2	3.51										
POSTERIOR PROBABILITY	2.036	3.51										
MAXIMUM UTILITY	1.74											
POSTERIOR SCALED UTILITY	.15											
POSTERIOR EXPECTED UTILITY	.15 x 1.74 = 3.26											

GOAL WEIGHT	MEASURE NUMBER	MEASURE WEIGHT	MAXIMUM UTILITY	PRIOR MEAN	SAMPLE MEAN	POSTERIOR SCALED UTILITY	POSTERIOR EXPECTED UTILITY
8.7	d	.25	1.74	4	3.51	.15	.326

DISCUSSION OF RESULTS

GOAL NO. 4

Fostering community and institutional outreach is the fourth goal in order of importance. It has a relative weight of 8.7 points out of 100. The staff developed four measures to determine attainment for this goal. The sum of the measures indicates that WINNERS was 8 percent off from the predicted level of goal attainment.

In interviewing representatives from 25 institutes of post-secondary education, it was found that nine institutions out of the total sample size were not familiar with WINNERS. It could be that the individual representative's lack of familiarity with WINNERS was not necessarily a reflection of that of other administrators. In general, even college administrators who were not familiar with WINNERS expressed enthusiasm in meeting WINNERS people. WINNERS works very closely with a limited number of schools which are vocationally oriented and have low tuition — schools such as Roxbury Community College, Bay State Junior College of Business (which has accepted 50 referrals from WINNERS), Boston State College, Bunker Hill Community College, and Fisher Junior College. In examining WINNERS records, we found that almost every institute of post-secondary education contacted by WINNERS has accepted one or more students referred by the program.

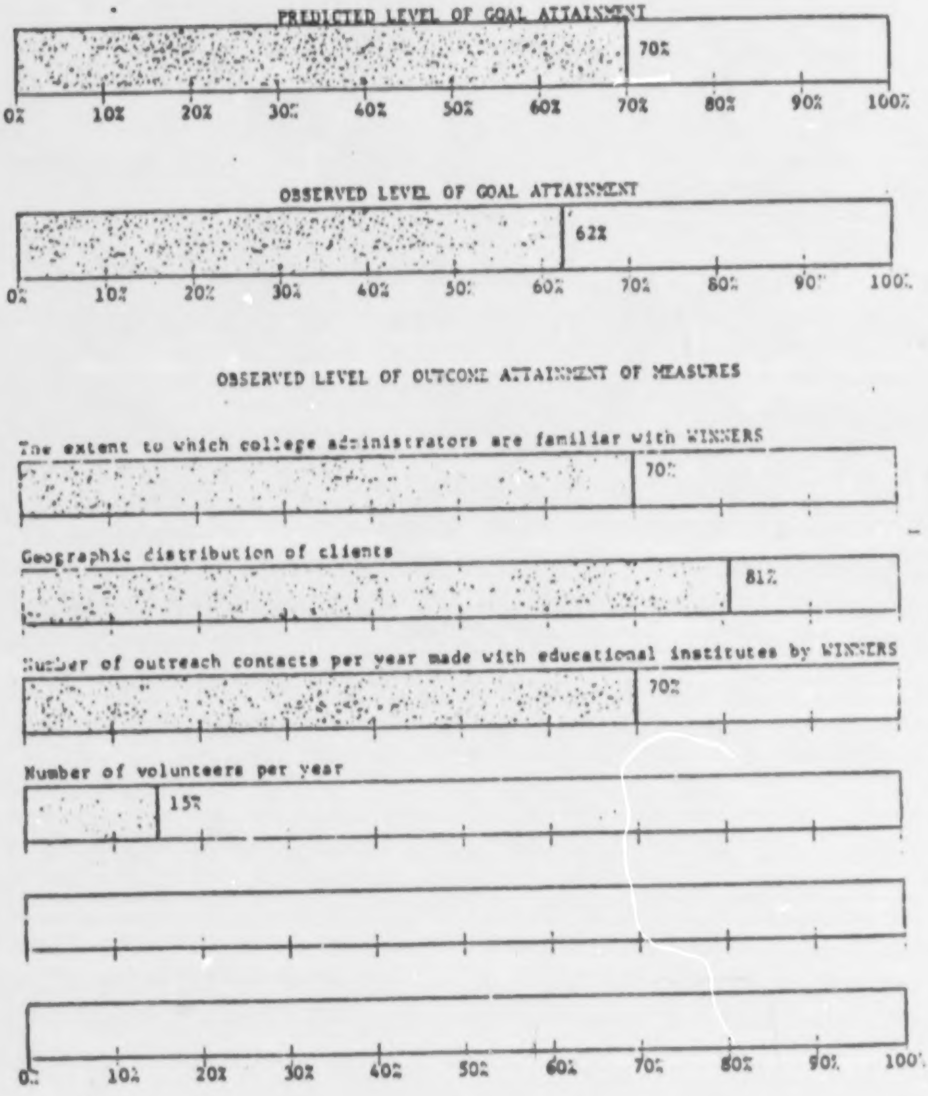
Geographical distribution of clients is an important attribute for WINNERS. As an organization which set out to help low-income women, WINNERS has established itself in a black-dominated community and geared itself toward helping black women. However, the concept of helping low-income women has been broadened to include every woman who is in need. To reinforce this change, WINNERS has hired Spanish-speaking counselors to assist the increasing number of Hispanic women requesting assistance from the program. In one of many interviews, the program director stated strongly her belief that although WINNERS was established to help black women, it now provides its services to any low-income woman who needs help in bettering her socio-economic status. Furthermore, WINNERS has also opened its doors to men who wish to receive assistance.

It is the university liaison person who is responsible for making and maintaining contacts with institutes of post-secondary education in the Boston area. Her work requires her to attend conferences and meetings on topics relating to post-secondary education; she also meets with college deans and administrators and informs them about WINNERS' programs and students.

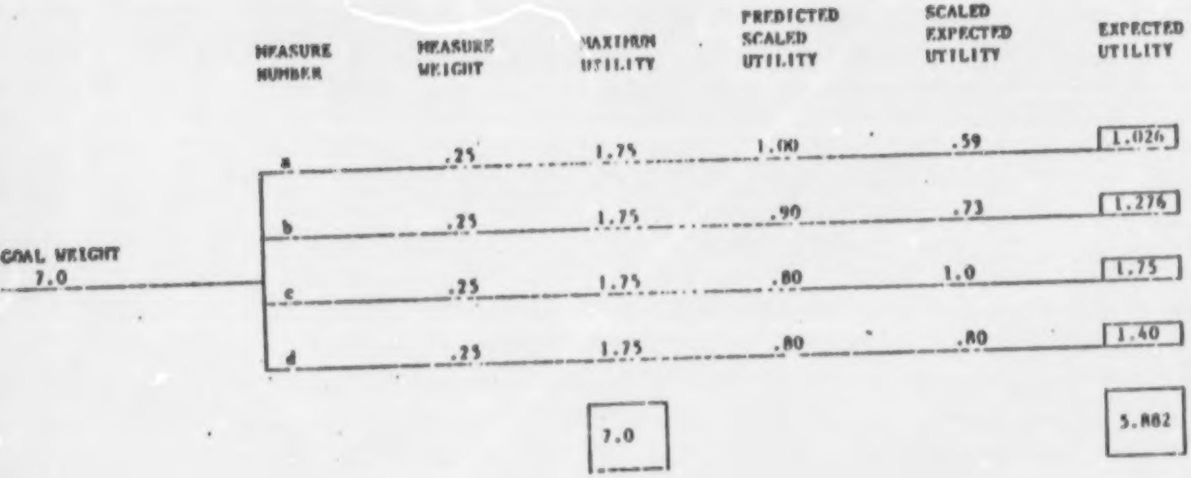
The last measure received the lowest level of outcome attainment. This is a result of the entremely low number of volunteers working at WINNERS. Thirty volunteers would provide maximum usefulness (Utility = 1). However, the average number of volunteers per year is only three, thus explaining the low level of attainment. In the client survey, each client was asked if she would be willing to do volunteer work; over 35 percent of the clients asked responded positively to this request. This outcome measure did not take into account 7 volunteers who are involved in the tutorial service. This is the result of the staff wish for more volunteers from the client population. As a result, WINNERS is planning to design certain activities in which more volunteers can assist, and also to reinforce in general the whole volunteer effort.

GRAPH OF GOAL ATTAINMENT — GOAL NO. 4

FOSTER EXTENSIVE COMMUNITY AND INSTITUTION OUTREACH



TREE DIAGRAM GOAL NO. 5


MEASURE NUMBER
MEASURE WEIGHT
MAXIMUM UTILITY
PREDICTED SCALED UTILITY
SCALED EXPECTED UTILITY
EXPECTED UTILITY
GOAL WEIGHT
7.0
a
.25
1.75
1.00
.59
1.026
b
.25
1.75
.90
.73
1.276
c
.25
1.75
.80
1.0
1.75
d
.25
1.75
.80
.80
1.40
7.0
5.882

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 5	Improve all our supportive services				GOAL WEIGHT 7.0
MEASURE a RELATIVE WEIGHT .25	The extent to which clients are satisfied with the overall services provided at WINNERS				MAXIMUM UTILITY 1.75
UTILITY OF OUTCOME	0.0	0.3	0.7	1.0	
THE EXTENT TO WHICH CLIENTS ARE SATISFIED WITH THE OVERALL SERVICES PROVIDED AT WINNERS	Poor	Fair	Very Good	Excellent	
ASSUMED DISTRIBUTION	DIRICHLET				
RESULTS (TOTAL N= 80)	1	6	30	43	
MEAN (n/N)	.125	.075	.0375	.5375	
CATEGORICAL UTILITY	0	0.525	1.225	1.75	
EXPECTED CATEGORICAL UTIL	0	0.039	0.046	0.941	
EXPECTED UTILITY	1.026	MAXIMUM UTILITY		1.750	

BRIEF DESCRIPTION OF RESULTS:

More than 50 percent of the clients rated excellent the overall quality of the services provided by WINNERS. They all have commented about the impact they had from being involved with WINNERS. This outcome was attained by 59 percent.

GOAL NO.	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
3	c	7.0	x	.25	=	1.75	.586	1.026

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 5	Improve all our supportive services	GOAL WEIGHT 7.0
MEASURE NO. b RELATIVE WEIGHT .25	The extent to which clients are satisfied with the advocacy service provided by WINNERS staff	MAXIMUM UTILITY 1.75

UTILITY OF OUTCOME	0.0	1.0								
THE EXTENT TO WHICH CLIENTS ARE SATISFIED WITH THE ADVOCACY SERVICE PROVIDED BY WINNERS STAFF	No	Yes								

ASSUMED DISTRIBUTION	BETA/BINOMIAL					
PARAMETERS	p	q	N	MEAN	MAXIMUM UTILITY	1.75
RESULTS	35	13	48	.73	EXPECTED UTILITY	1.276

BRIEF DESCRIPTION OF RESULTS:

35 out of a total sample of 48 believed that WINNERS helped them in cutting some of the red tape. Therefore, approximately 75 percent outcome of advocacy was attained.

GOAL NO.	MEASURE NO.	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SAMPLE MEAN	EXPECTED UTILITY
5	b	7.0	x	.25	=	1.75	.73	1.276

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 5	Improve all our supportive services									GOAL WEIGHT 7.0
MEASURE c RELATIVE WEIGHT .25	Number of interventions per year per counselor									MAXIMUM UTILITY 1.75
UTILITY OF OUTCOME	0.0	0.2	0.4	0.6	0.8	1.0				
NUMBER OF INTERVENTIONS PER YEAR PER COUNSELOR	0	2	4	6	8	10				
ASSUMED DISTRIBUTION	NORMAL									
RESULTS (TOTAL N= 2)	27 interventions in two years									
MEAN ($\bar{x} = \frac{\Sigma x}{n}$)	13.5									
EXPECTED UTILITY	1.75	MAXIMUM UTILITY				1.75				

BRIEF DESCRIPTION OF RESULTS:

Total number of interventions made by the counselors for a period of two years was 27. This involved the counselor intervening for her clients. Since the number of interventions exceeded the utility value, the outcome was totally attained.

GOAL NO. 5	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
	c	7.0	x	.25	=	1.75	1.0	1.75

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 5	Improve all our supportive services				GOAL WEIGHT 7.0
MEASURE d RELATIVE WEIGHT .25	The extent to which clients are satisfied with tutorial services				MAXIMUM UTILITY 1.75
UTILITY OF OUTCOME	0.0	0.4	0.6	0.8	1.0
THE EXTENT TO WHICH CLIENTS ARE SATISFIED WITH TUTORIAL SERVICES	1	2	3	4	5
ASSUMED DISTRIBUTION	DIRICHLET				
RESULTS (TOTAL N= 20)	0	1	6	5	8
MEAN (n/N)	0	.05	.30	.25	.40
CATEGORICAL UTILITY	0	.70	1.05	1.40	1.75
EXPECTED CATEGORICAL UTIL	0	.0350	0.315	0.350	0.700
EXPECTED UTILITY	1.40	MAXIMUM UTILITY	1.75		

BRIEF DESCRIPTION OF RESULTS:

Tutorial service is offered to any students wanting to refresh her skills in basic requirements equivalent to high school. Clients' responses ranged between 3 to 5. Consequently 80 percent was attained.

GOAL NO. 5	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
	d	1.75	x	.25	=	1.75	.80	1.40

DISCUSSION OF RESULTS

GOAL NO. 5

WINNERS' need to assess its supportive services is expressed in its fifth goal, which has an importance weight of 7. It is measured by four attributes. The outcomes measured included the quality of its general services, its tutorial assistance, and its advocacy counseling.

When clients rated the overall quality of WINNERS' services, the majority of the responses fell into two categories: 43 percent stated it was "excellent," and 30 percent rated it as "very good." Since a response of "very good" had a utility of only .7 for the program director, a relatively small utility resulted (.7 x .0375 = 1.225). Most of the clients (73 percent) responded positively.

Advocacy services consist of activities such as getting applications to the right people, dealing with clients' complaints against abusive or unfair treatment, and keeping college administrators aware of the clients' needs for various supports. An attainment level of 73 percent was obtained for this outcome. Difficulties in the area varied. "WINNERS, naturally, cannot please everybody and there are cases where the counselor is limited to dealing with the bureaucracy of long-time established institutions," stated one counselor. One of the clients commented:

> WINNERS is not only an educational resource center, but also gives encouragement. You never realize what a big

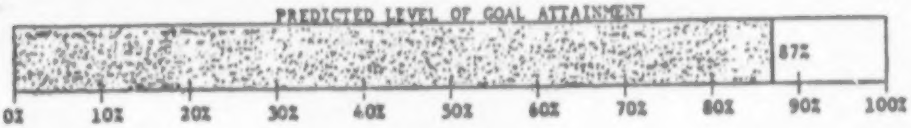
> step it is for a woman over thirty to go gack to school. It is frightening, but my counselor gave me the extra push. I've wanted to go back but just needed a push, and somebody who could inform me how to go about doing it.

Outcome c was fully attained because most of the counselors intervened for their clients far in excess of the program director's expectations. Eighty percent of the clients were very satisfied with the quality of the tutorial service, which aims to develop reading and writing skills. Although it was predicted that this goal would have a level of attainment of 87 percent, the actual level of performance was 78 percent.

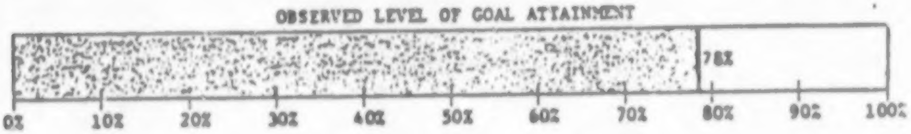
GRAPH OF GOAL ATTAINMENT — GOAL NO. 5

IMPROVE ALL OUR SUPPORTIVE SERVICES

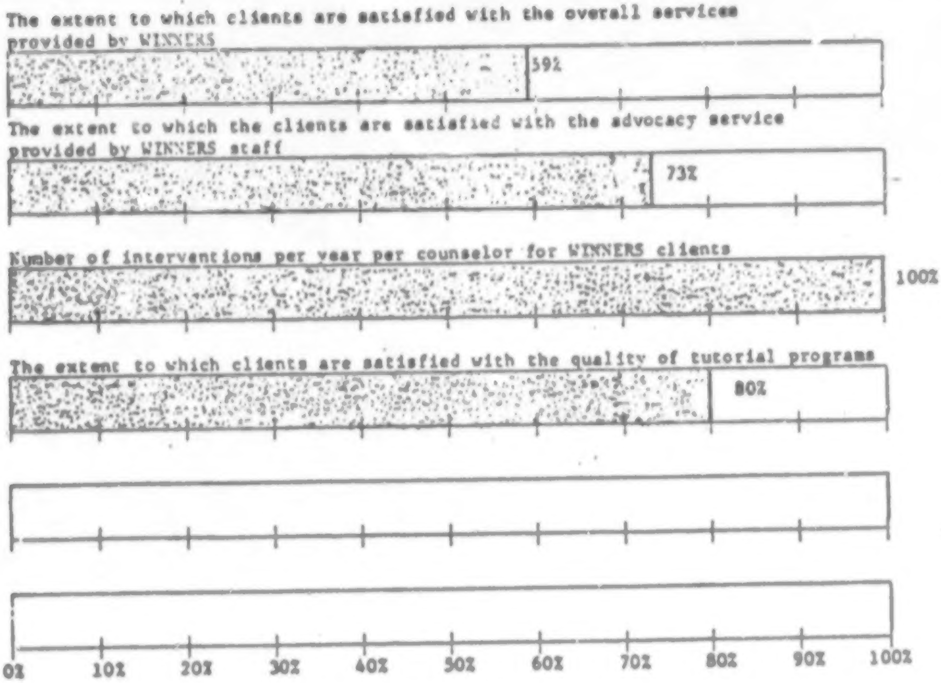
PREDICTED LEVEL OF GOAL ATTAINMENT



OBSERVED LEVEL OF GOAL ATTAINMENT



OBSERVED LEVEL OF OUTCOME ATTAINMENT OF MEASURES



TREE DIAGRAM GOAL NO. 6

GOAL WEIGHT
7.0

MEASURE NUMBER	MEASURE WEIGHT	MAXIMUM UTILITY	PREDICTED SCALED UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
a	.25	1.75	.75	.50	0.875
b	.25	1.75	.57	.65	1.137
c	.20	1.40	.80	.75	1.050
d	.20	1.40	.84	.81	1.135
e	.10	0.70	.90	1.00	0.700
		7.00			4.897

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 6	Staff to develop a strong commitment to the program	GOAL WEIGHT 7.0
MEASURE NO. a RELATIVE WEIGHT .25	The extent to which staffs' expectations are met	MAXIMUM UTILITY 1.75

UTILITY OF OUTCOME	0.0	1.0								
THE EXTENT TO WHICH STAFFS' EXPECTATIONS ARE MET	No	Yes								

ASSUMED DISTRIBUTION	BETA/BINOMIAL					
PARAMETERS	P	q	N	MEAN	MAXIMUM UTILITY	1.75
RESULTS	3	3	6	.50	EXPECTED UTILITY	0.875

BRIEF DESCRIPTION OF RESULTS:

50 percent of the staff indicated that expectations from working at WINNERS were met. The others felt that more outreach was necessary and there is space for further growth. Others felt that the work is exciting and the interaction with people in need is very gratifying.

GOAL NO.	MEASURE NO.	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
6	a	7.0	x	.25	=	1.75	.50	.875

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 6	Staff to develop a strong commitment to the program				GOAL WEIGHT 7.0
MEASURE b RELATIVE WEIGHT .25	The extent to which the staff is satisfied with its work				MAXIMUM UTILITY 1.75
UTILITY OF OUTCOME	0.0	0.3	1.0		
THE EXTENT TO WHICH THE STAFF IS SATISFIED WITH ITS WORK	Not Satisfied	Satisfied	Very Satisfied		
ASSUMED DISTRIBUTION	DIRICHLET				
RESULTS (TOTAL N= 6)	0	3	3		
MEAN (n/N)	0.0	0.50	0.50		
CATEGORICAL UTILITY	0.000	0.525	1.750		
EXPECTED CATEGORICAL UTIL	0.000	0.262	0.875		
EXPECTED UTILITY	1.137	MAXIMUM UTILITY		1.750	

BRIEF DESCRIPTION OF RESULTS:

The counselors were very satisfied in their work. Theindicated that the most rewarding aspect of their work is the assistance they provide for women in need for education.

GOAL NO.	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
6	b	7.0	x	.25	=	1.750	.65	1.137

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 6	Staff to develop a strong commitment to the program				GOAL WEIGHT 7.0
MEASURE c RELATIVE WEIGHT .20	Self evaluation of the staff				MAXIMUM UTILITY 1.40
UTILITY OF OUTCOME	0.0	0.5	1.0		
SELF EVALUATION OF THE STAFF	Not Effective	Effective	Very Effective		
ASSUMED DISTRIBUTION	DIRICHLET				
RESULTS (TOTAL N= 6)	0	3	3		
MEAN (n/N)	0.0	0.50	0.50		
CATEGORICAL UTILITY	0.0	0.70	1.40		
EXPECTED CATEGORICAL UTIL	0.0	0.35	0.70		
EXPECTED UTILITY	1.050	MAXIMUM UTILITY	1.400		

BRIEF DESCRIPTION OF RESULTS:

Counselors considered themselves effective if they thought they were helping the clients and getting them interested in pursuing their education. Three counselors felt that in general it is hard to assess their effectiveness because it is "too early."

GOAL NO.	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
6	c	7.0	x	.20	=	1.40	.75	1.05

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 6	Staff to develop a strong commitment to the program				GOAL WEIGHT 7.0
MEASURE d RELATIVE WEIGHT .20	Clients' evaluation of the staff				MAXIMUM UTILITY 1.4
UTILITY OF OUTCOME	0.0	0.2	0.8	1.0	
CLIENTS' EVALUATION OF THE STAFF	Poor	Fair	Very Good	Excellent	
ASSUMED DISTRIBUTION	DIRICHLET				
RESULTS (TOTAL N= 76)	5	5	27	39	
MEAN (n/N)	.065	.065	.356	.514	
CATEGORICAL UTILITY	0.0	0.28	1.12	1.40	
EXPECTED CATEGORICAL UTIL	0.0	0.018	0.398	0.719	
EXPECTED UTILITY	1.135	MAXIMUM UTILITY		1.400	–

BRIEF DESCRIPTION OF RESULTS:

Most of the clients rated their relationship with their counselors very high. They have added many comments describing the special individual treatment they received and the encouragement they got from WINNERS' staff. This outcome was attained by 80 percent.

GOAL NO.	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
6	d	7.0	x	.20	=	1.4	.81	1.135

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 6	Staff to develop a strong commitment to the program				GOAL WEIGHT 7.0
MEASURE e RELATIVE WEIGHT .10	Percentage of staff turnover				MAXIMUM UTILITY .70
UTILITY OF OUTCOME	0.0	0.6	1.0		
PERCENTAGE OF STAFF TURNOVER	High	Medium	Low		
ASSUMED DISTRIBUTION	DIRICHLET				
RESULTS (TOTAL N= 6)	0	0	6		
MEAN (n/N)	0	0	1.0		
CATEGORICAL UTILITY	0	.42	.70		
EXPECTED CATEGORICAL UTIL	0	0	.70		
EXPECTED UTILITY	.70	MAXIMUM UTILITY	.70		

BRIEF DESCRIPTION OF RESULTS:

All members of the staff believed that turnover is low. In fact, all counselors have been at WINNERS at least two years.

GOAL NO.	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
6	e	7.0	x	.10	=	0.70	1.0	.70

DISCUSSION OF RESULTS

GOAL NO. 6

The observed level of this goal is 5 percent less than its predicted level of attainment. Although the staff is small, there was a wide range of options. With the exception of the development officer and the Hispanic counselor, all staff members are black and female. They are well experienced in counseling and are openly admired by most clients. In the client survey, more than 85 percent of the clients described their relationship with their counselor as either "very good" or "excellent."

Measure a received only 50 percent of its possible outcome, due to the fact that fully half of the staff members did not feel that their expectations of the program were being met. Following are some of the staff remarks:

> My expectations are not completely met. We are not reaching enough people that I feel we should reach.
>
> We must continue growing and we should spend more time in thinking how to get more people.

A staff member who responded positively to this question stated:

> I believe that one of the most important ways in which minority and poor people can change their situation is through education. Our aim is to make education available to them. What we are doing here is socially and politically critical.

Although half of the staff members did not feel that their expectations were being met, they all stated that their work provided them with a great deal of satisfaction. This explains the 75 percent of outcome attainment on Measure b.

The staff turnover is very low. During the last two years only one counselor has left. When the staff was questioned about the kinds of things that hindered their work, the following responses were made:

> A lot of paper work, duplication of reports which take a lot of time.
>
> Lack of an automobile which can save us time in getting to places.
>
> Sometimes there is lack of insight about the many potential programs that we could implement as a community organization.

Most of the staff members felt that their work was effective. Going out into the community, meeting people in colleges, and offering counseling to clients provided a real challenge for all members of the staff. When asked about the aspects of their work that they considered the most rewarding, the staff memtioned the following:

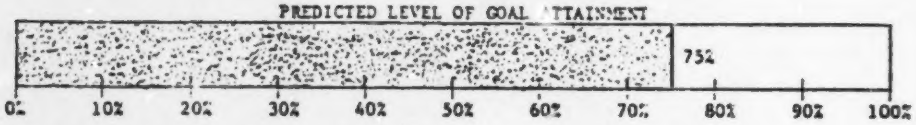
- Both counseling clients and contact with various social organizations.
- The opportunity to work for women who need help.
- Having new clients come and ask for a particular counselor because she was recommended by a friend.
- Excellent rapport with the staff.
- Learning experience.
- Opportunity to communicate with colleges.

- Helping WINNERS get money from previously untapped sources.
- Working with other institutions on joint proposals.
- The feeling of doing something worthwhile.

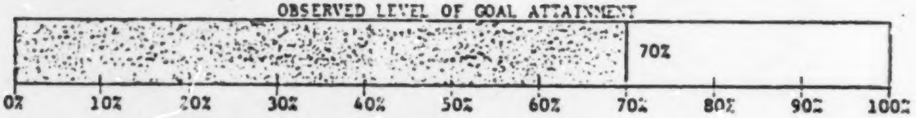
GRAPH OF GOAL ATTAINMENT — GOAL NO. 6

STAFF TO DEVELOP A STRONG COMMITMENT FOR THE PROGRAM

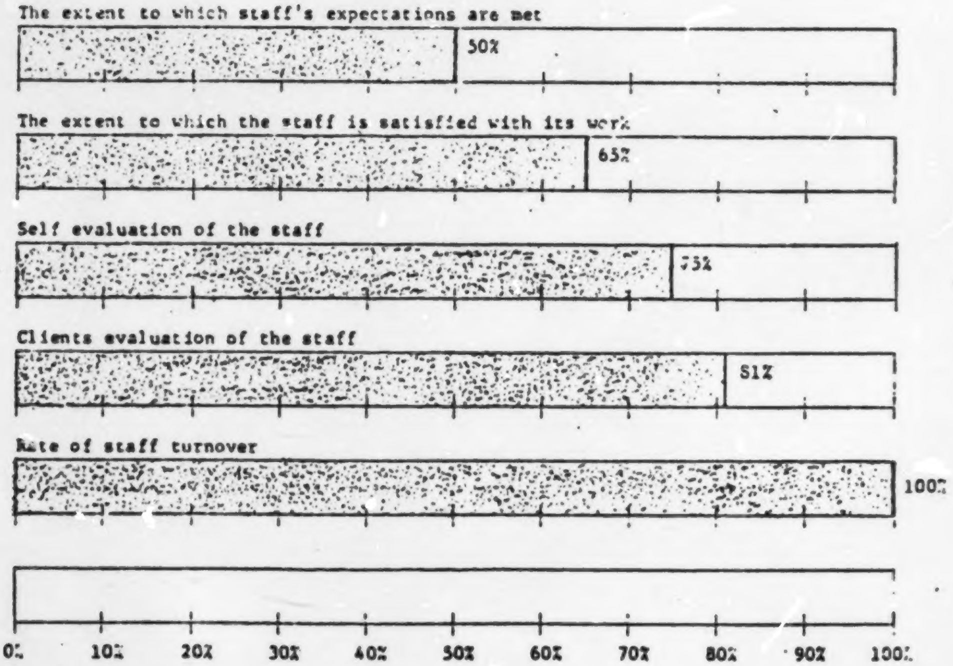
PREDICTED LEVEL OF GOAL ATTAINMENT



OBSERVED LEVEL OF GOAL ATTAINMENT



OBSERVED LEVEL OF OUTCOME ATTAINMENT OF MEASURES



TREE DIAGRAM GOAL NO. 7

GOAL WEIGHT
5.6

MEASURE NUMBER	MEASURE WEIGHT	MAXIMUM UTILITY	PREDICTED SCALED UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
a	.40	2.24	1.00	.98	2.150
b	.30	1.68	.60	.66	1.120
c	.30	1.68	.60	.80	1.338
		5.60			4.608

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 7	Promote heterogeneous staff for the program and enhance its professional development	GOAL WEIGHT 5.6
MEASURE NO. a RELATIVE WEIGHT .40	The extent to which the racial background of the staff contributed to the counseling process	MAXIMUM UTILITY 2.24

UTILITY OF OUTCOME	0.0	1.0								
THE EXTENT TO WHICH THE RACIAL BACKGROUND OF THE STAFF CONTRIBUTED TO THE COUNSELING PROCESS	No	Yes								

ASSUMED DISTRIBUTION	BETA/BINOMINAL					
PARAMETERS	P	q	N	MEAN	MAXIMUM UTILITY	2.24
RESULTS	48	1	49	.98	EXPECTED UTILITY	2.15

BRIEF DESCRIPTION OF RESULTS:

Since "helped counseling" or "neither helped nor hindered" have the same utility and the same outcome, Beta binominal distribution is mostly appropriate. Out of the 49 clients, 30 believed that the racial background of the counselor helped counseling, 18 stated no effect and only 1 client felt it hindered counseling.

GOAL NO.	MEASURE NO.	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
7	a	5.6	x	.40	=	2.24	.98	2.15

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 7	Promote heterogeneous staff for the program and enhance its professional development	GOAL WEIGHT 5.6
MEASURE NO. b RELATIVE WEIGHT .30	Number of staff enrolled in educational programs	MAXIMUM UTILITY 1.68

UTILITY OF OUTCOME	0.0	0.4	0.6	0.8	1.0					
NUMBER OF STAFF ENROLLED IN EDUCATIONAL PROGRAMS	0	25	50	75	100					
ASSUMED DISTRIBUTION	BETA/BINOMIAL									
PARAMETERS	p	q	N	MEAN	MAXIMUM UTILITY	1.68				
RESULTS	4	2	6	.66	EXPECTED UTILITY	1.12				

BRIEF DESCRIPTION OF RESULTS:

4 of the staff are enrolled in educational programs, primarily in social work and counseling.

GOAL NO. 7	MEASURE NO. b	GOAL WEIGHT	MEASURE WEIGHT	MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
		5.6 x	.30 =	1.68	.66	1.12

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 7	Promote heterogeneous staff for the program and enhance its professional development				GOAL WEIGHT 5.6
MEASURE c RELATIVE WEIGHT .30	Staff satisfaction with the quality of the in-service training program				MAXIMUM UTILITY 1.68
UTILITY OF OUTCOME	0.0	0.4	0.6	0.8	1.0
STAFF SATISFACTION WITH THE QUALITY OF THE IN-SERVICE TRAINING PROGRAM	1	2	3	4	5
ASSUMED DISTRIBUTION	DIRICHLET				
RESULTS (TOTAL N= 6)	0	0	n=2	n=2	n=2
MEAN (n/N)	0	0	0.333	0.333	0.333
CATEGORICAL UTILITY	0	0.672	1.008	1.334	1.680
EXPECTED CATEGORICAL UTIL	0	0	0.335	0.447	0.556
EXPECTED UTILITY	1.338	MAXIMUM UTILITY		1.650	

BRIEF DESCRIPTION OF RESULTS:

Staff satisfaction with the quality of in-service training programs was mixed. They felt that the topics should be more oriented toward their needs in working with a special kind of population.

GOAL NO.	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
7	c	5.6	x	.30	=	1.68	.80	1.338

DISCUSSION OF RESULTS

GOAL NO. 7

This goal also has to do with the staff, but is more concerned with the professional development of the staff and its heterogeneity. Since the goals were generated by the staff, it is natural that issues of staff effectiveness, development, and commitment were major concerns. In fact, if the importance weights of Goals 6 and 7 are added the sum totals 12.6 (5.6 + 7), which is the same weight that was assigned to Goal 2 — "helping adult women continue their education."

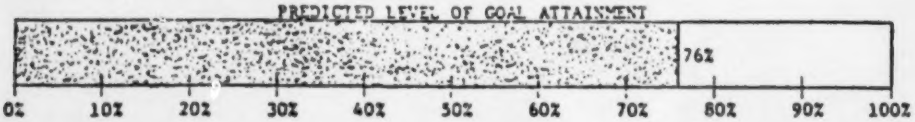
Goal 7 was measured by three attributes. The first measure required almost the total maximum utility assigned to the outcome: 2.15 out of 2.24. Sixty-one percent of the clients felt that the ethnic make-up of the staff helped counseling efforts, while 37 percent felt that it neither helped nor hindered counseling. These two responses were considered favorable. As a result, this outcome was measured at 98 percent attainment, out of a total of 100.

Sixty-six percent of the staff were enrolled in educational programs. However, many expressed a need for more workshops and seminars that would aid them in helping adult women. It was said that most of the seminars conducted by other organizations "do not address themselves to the kind of population we come in contact with." Workshops on community work and motivation were two of the many suggestions made by the staff.

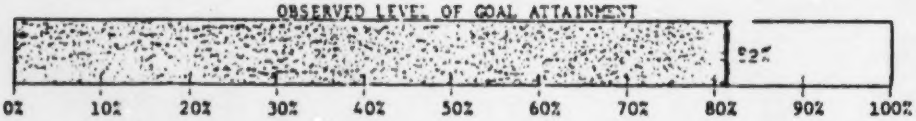
GRAPH OF GOAL ATTAINMENT — GOAL NO. 7

PROMOTE HETEROGENEOUS STAFF FOR THE PROGRAM AND ENHANCE ITS PROFESSIONAL DEVELOPMENT

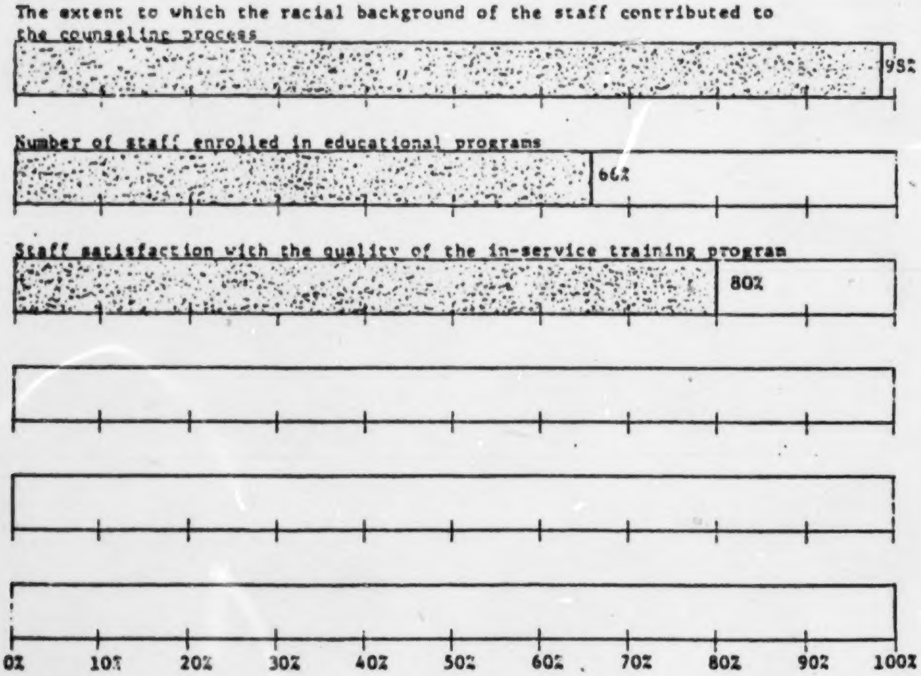
PREDICTED LEVEL OF GOAL ATTAINMENT



OBSERVED LEVEL OF GOAL ATTAINMENT



OBSERVED LEVEL OF OUTCOME ATTAINMENT OF MEASURES



TREE DIAGRAM GOAL NO. 8

GOAL WEIGHT
5.2

MEASURE NUMBER	MEASURE WEIGHT	MAXIMUM UTILITY	PREDICTED SCALED UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
a	.50	2.60	.51	1.0	2.6
b	.30	1.56	.80	.95	1.47
c	.20	1.04	.80	.67	.696
		5.2			4.766

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 8	Promote advertising				GOAL WEIGHT 5.2
MEASURE a RELATIVE WEIGHT .50	Degree of public exposure				MAXIMUM UTILITY 2.6
UTILITY OF OUTCOME	0.1	0.5	1.0		
DEGREE OF PUBLIC EXPOSURE	Low	Medium	High		
ASSUMED DISTRIBUTION	DIRICHLET				
RESULTS (TOTAL N= 3)	0	0	3		
MEAN (n/N)	0	0	1.0		
CATEGORICAL UTILITY	.26	1.3	2.6		
EXPECTED CATEGORICAL UTIL	0	0	2.6		
EXPECTED UTILITY	2.6	MAXIMUM UTILITY		2.6	

BRIEF DESCRIPTION OF RESULTS:

The three experts have received the material published by WINNERS and have determined that the quality and volume are of high quality. Outcome was attained totally.

GOAL NO. 8	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
	a	5.2	x	.50	=	2.6	1.0	2.6

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 8	Promote advertising	GOAL WEIGHT 5.2
MEASURE NO. b RELATIVE WEIGHT .30	The extent to which the clients are satisfied with the usefulness of the newsletter	MAXIMUM UTILITY 1.56

UTILITY OF OUTCOME	0.0	1.0								
THE EXTENT TO WHICH THE CLIENTS ARE SATISFIED WITH THE USEFULNESS OF THE NEWSLETTER	Not Useful	Very Useful								

ASSUMED DISTRIBUTION	BETA/BINOMINAL					
PARAMETERS	p	q	N	MEAN	MAXIMUM UTILITY	1.56
RESULTS	35	2	37	.95	EXPECTED UTILITY	1.47

BRIEF DESCRIPTION OF RESULTS:

95 percent of the clients receiving WINNERS' newsletter found it very informative and useful.

GOAL NO. 8	MEASURE NO. b	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
		5.2	x	.30	=	1.56	.95	1.47

SUMMARY OF RESULTS AND DATA ANALYSIS

GOAL NUMBER 8	Promote advertising								GOAL WEIGHT 5.2	
MEASURE c RELATIVE WEIGHT .20	Number of requests for information								MAXIMUM UTILITY 1.04	
UTILITY OF OUTCOME	0.0	0.4	0.6	0.8	1.0					
NUMBER OF REQUESTS FOR INFORMATION	0	.4	6	8	10					
ASSUMED DISTRIBUTION	NORMAL									
RESULTS (TOTAL N= 25)	167 calls in 25 days									
MEAN ($\bar{X}= \frac{\Sigma X}{n}$)	6.68									
EXPECTED UTILITY	.696	MAXIMUM UTILITY			1.04					

BRIEF DESCRIPTION OF RESULTS:

For 25 days the receptionist recorded all incoming calls requesting information about WINNERS. The average calls per day was 6.68. This value equals .67 on the utility of outcome.

number of ✓

GOAL NO.	MEASURE NUMBER	GOAL WEIGHT		MEASURE WEIGHT		MAXIMUM UTILITY	SCALED EXPECTED UTILITY	EXPECTED UTILITY
8	c	5.2	x	.20	=	1.04	.67	.696

DISCUSSION OF RESULTS

GOAL NO. 8

Goal 8, the last to be discussed in this evaluation study, is concerned with the quality of WINNERS' advertising. The staff believes that maintaining contact with clients who have graduated or who are currently enrolled will increase the credibility and visibility of the program. Although the program director predicted a 65 percent level of attainment, the success of this outcome exceeded all expectations. A high level of attainment on all three attributes made possible a 92 percent level of actual performance on this goal.

Three public relations experts examined WINNERS' various publications, articles about the program that had been printed in local and national newspapers, WINNERS' newsletter, and radio and TV advertisements for WINNERS' services; these experts determined that the quality of all of these publicity efforts was excellent. Thus, maximum utility was attained on Measure a.

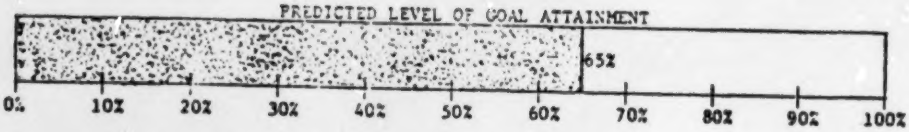
WINNERS publishes a bimonthly newsletter which is distributed to clients and to various local institutions. Most of the clients who responded to the questionnaire have received the newsletter, and 95 percent have found it very useful.

The number of requests for information about the program was recorded for 25 randomly selected days. It was found that, on the average, there were seven calls a day requesting information about WINNERS.

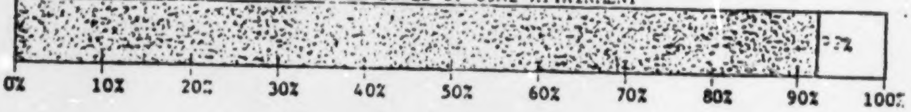
GRAPH OF GOAL ATTAINMENT — GOAL NO. 8

PROMOTE ADVERTISING

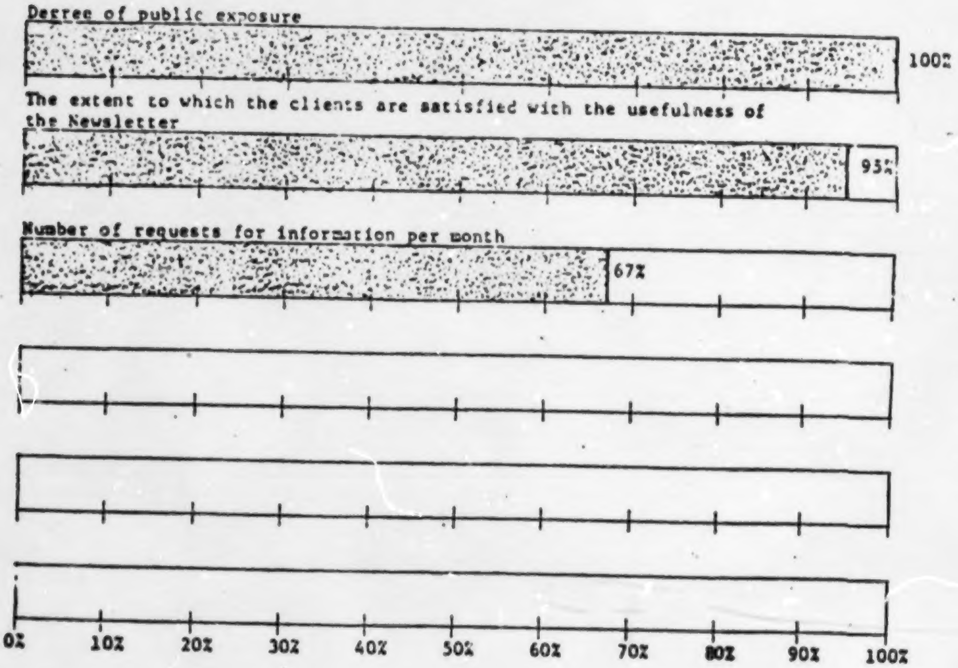
PREDICTED LEVEL OF GOAL ATTAINMENT



OBSERVED LEVEL OF GOAL ATTAINMENT



OBSERVED LEVEL OF OUTCOME ATTAINMENT OF MEASURES



DISCUSSION OF RESULTS

SUMMARY

Since only eight out of 20 goals were evaluated, the sum of the weights for the eight goals is equal to 69.7 percent. Theoretically, then, if each measure were fully attained, the total utility would be 69.7. However, WINNERS recognized that what is desirable is not always attainable; before the data was collected it was predicted that 49.3 percent of the total weight of 69.9 would be attained. (See Figure IV-6).

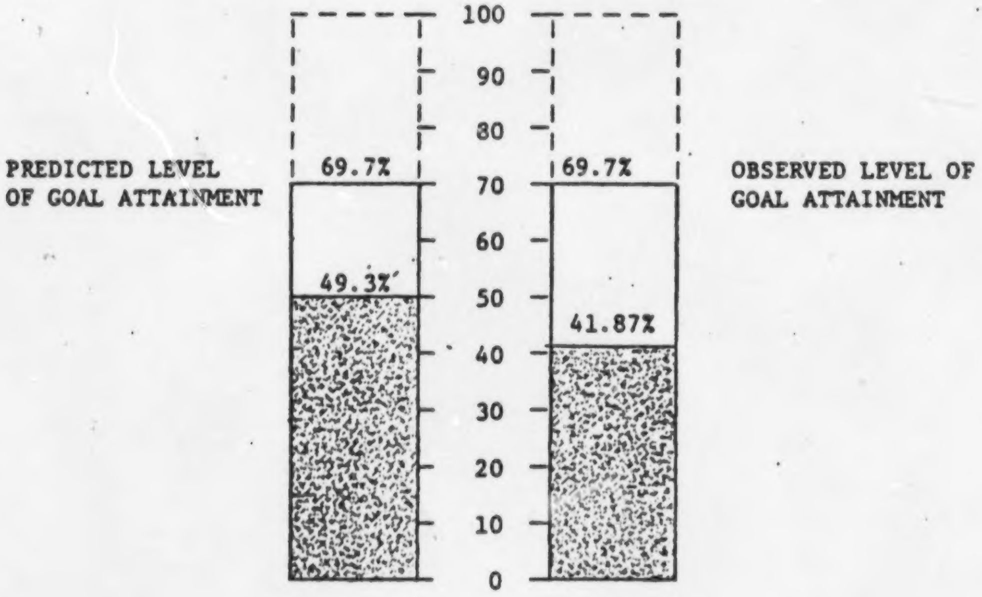
The results indicate that some goals were more fully attained than others. Each goal can be judged separately. For goal 1, for example, it was predicted that 7.78 precent out of a possible 13.9 percent would be attained. The data indicate that the overall level of attainment on Goal 1 was relatively high and that 10.36 percent out of the 13.9 percent maximum utility had been achieved. In another example, it was predicted for Goal 6 that 5.25 percent of a possible goal weight of 7.0 percent would be attained. However, the results indicate that the observed weight was equal to 4.89 percent — a difference of .36 percent.

In general, the predictions were fairly close to the observed level of attainment. However, when the observed utilities are added together and compared with the sum of the predicted values, it can be seen that WINNERS came short of its expectations

FIGURE IV-6

CUMULATIVE RESULTS OF ALL GOALS MEASURED FOR WINNERS

	GOALS								TOTAL
	1	2	3	4	5	6	7	8	
WEIGHT	13.9	12.2	10.1	8.7	7.0	7.0	5.6	5.2	69.7
PREDICTED UTILITY	7.78	7.39	7.07	6.09	6.09	5.25	4.25	3.38	49.30
EXPECTED UTILITY	10.36	9.72	6.59	5.43	5.88	4.89	4.60	4.76	41.87



only by 7.43 percent (49.30 - 41.87 = 7.43).

By looking at the outcome measures for each goal, WINNERS can determine both the areas in which it has been successful and the areas in which further improvement is necessary. Thus, decisions regarding the allocation of program resources can be made with a clear knowledge of needs and priorities — knowledge that has been provided by the MAUT process.

CHAPTER V

EVALUATING THE EVALUATION

This chapter presents a discussion of the implications of MAUT, based on experience accumulated in the field. It is hoped that this discussion will further an understanding of the approach and of its impact on programs and their personnel.

THE PURPOSE OF USING MAUT FOR EVALUATION

Evaluations have many purposes. Funding agencies might use evaluation as a monitoring or control device, as a tool for determining financial accountability, or as a means for justifying predetermined policies or plans. Evaluations also are conducted for various audiences, but rarely for practitioners at the local level of public programs. Evaluation using the MAUT approach is basically concerned with the provision of timely and relevant information for use in making planning decisions. Such information can assist planners and program directors in improving their programs. By specifying the values and goals of the various groups involved, the evaluation process can generate information that is relevant to the goals and needs of practitioners.

It is a fact that many evaluations have had limited influence on decision making, because the information collected has been irrelevant to the needs of the decision maker. Cohen and Garet (1975)[11] claim that decision makers often disregard evaluation findings not because of any lack of scientific validity but rather because these findings are not applicable to the decision-making process. They state:

> This research may be quite valid in a scientific sense, but it is ordinarily quite irrelevant. It is focused on the questions university professors want to answer, rather than on the decisions which officials have to make. It is also done to fit professors' schedules rather than to respond to decision makers' needs.

It is clear that decision makers need evaluation methods that are practical, rather than theoretical. Program directors at the local level have little assistance in evaluating the effectiveness of their programs. They badly need data about their activities and services, but have limited knowledge and resources to gather and analyze such information. The MAUT paradigm recognizes this need and attempts to provide a mechanism by which people at the local level (the program staff) and at the national level (the funding agency) can specify their goals and values. By generating information which is relevant to the needs of each group, MAUT makes it possible for decisions to be influenced by the new information.

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[11] David K. Cohen and Michael S. Garet, "Reforming Educational Policy with Applied Social Research," Harvard Educational Review, Volume 45, Number 1 (February 1975), pp. 17-43.

Since the values and goals of the decision makers themselves play an important role in the decision-making process, the information collected for WINNERS is not only centered around what is happening in the program but is also related to what is desired or projected. The process of eliciting the utility (usefulness) of an outcome and the actual results has provided information relating to both the goals and the values of WINNERS personnel.

Determining the value (utility) of each outcome variable is a decision that should be made within the program, and not imposed on it by any outside agent. Naturally, at the local level, the decision maker is the program director. If the program is small, as is the case with WINNERS, then the director and staff can form a single group. However, if the local program is larger and more complex, various groups can be formed, as was the case with the study evaluating the Adolescent Rehabilitation Program for the Department of Mental Health of the State of Massachusetts.[12] In this study, eight different interest groups were identified in one region. These groups included:

(1) The Office of Children's Services of the Department of Mental Health;

(2) The Interdepartmental Team;

(3) The Regional Administrator and Area Directors;

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[12] Marcia Guttentag and Howard Hughes, "Evaluation Report for the Department of Mental Health, Region One," University of Massachusetts, Harbor Campus, June 1977.

(4) Unit Directors;

(5) Professional Citizens Advisory Board;

(6) The Clinical Staff;

(7) The Direct Care House Staff;

(8) Parents.

Each of these groups generated a set of goals reflecting its own values and needs. These groups were chosen because they met at least one of two criteria: (1) they were involved in decision-making processes affecting the program; or (2) they were recipients of services provided by the program.

An analysis of the goals generated by the eight groups revealed three major domains. The first category ("youth specific") consisted of goals dealing with the cognitive and emotional growth of young people treated by the program. The second category dealt with goals related specifically to the program at the local level ("program specific" goals). The third category ("system at large") included goals relating to the mental health services system as a whole.

This information is displayed in Table V-1. Each "X" indicates where a goal of one group is placed in one of the three categories. Beside each "X" is the importance weight assigned by the group to that goal. In this example, a number of groups clearly express different concerns and different goals within the same program. Thus, MAUT enabled each group to be given a voice in the evaluation process.

6

TABLE V-1

SCATTER PLOT DIAGRAM OF GROUP GOALS BY CATEGORY

GROUPS: / CATEGORIES:	STATE DMH	INTER-DEPARTMENT TEAM (2 sets of goals)	AREA DIRECTORS	UNIT DIRECTORS	NAJNAH ADVISORY COMMITTEE	NAJNAH OFFICE (CLINICAL) STAFF	NAJNAH HOUSE STAFF
YOUTH-SPECIFIC							
COGNITIVE, EMOTIONAL, AND BEHAVIORAL REHABILITATION OF THE NAJNAH YOUTH AND THEIR RELATIONS.			X 19.60	X 24.69	X 41.64 X 20.82	X 11.21	X 30.49 X 24.39 X 15.24 X 6.10 X 2.44 X 1.83
CELL TOTALS:			19.60	24.69	62.46	11.21	80.49
PROGRAM-SPECIFIC							
PROGARM AND STAFF DEVELOPMENT OF THE NAJNAH PROGRAM INCLUDING ADMINISTRATION AND COMMUNITY RELATIONS.	X 2.08	X 44.68 X 42.55 X 10.64 X 2.13	X 1.96 X 4.90 X 19.60 X 17.70 X 11.76 X 11.76 X 11.76	X 22.22 X 12.35 X 7.40 X 3.70 X 2.47 X 2.47	X 1.89	X 12.76 X 3.58 X 8.16 X 3.57	X 4.80 X 1.83 X 0.61
CELL TOTALS:	2.08	100.00	79.44	50.61	1.89	20.07	7.32
SYSTEM AT LARGE							
SYSTEMIC CONCERNS SUCH AS SYSTEMS CHANGE, INTERDEPARTMENTAL RELATIONS, ADMISSIONS, AFTERCARE AND DEINSTITUTIONALIZATION	X 31.25 X 20.83 X 11.46 X 10.42 X 16.67 X 4.17 X 1.13	X 47.27 X 28.30 X 14.15 X 9.43 X .94	X 3.92	X 14.81 X 9.88	X 20.82 X 9.46 X 3.79 X 0.95 X 0.63	X 30.61 X 20.51 X 6.63 X 5.10	X 12.20
CELL TOTALS:	97.93	100.09	3.92	24.69	35.65	62.85	12.20

The question of who is served by evaluation is one which is frequently asked in evaluation research. The MAUT approach, by letting program personnel generate their own goals and measures, makes it less likely that evaluators will impose their own values on the program. A classic example of the influence of evaluator interests is one of the early evaluations of the Head Start program: as the majority of the evaluators were trained psychologists, cognitive outcomes became the major focus of the evaluation.

By developing a set of goals at the local level and using outcome measures suggested by program personnel, control of the evaluation is transferred from the evaluator to practitioners, and the relevance of the resulting data to decision making is increased. The information collected for WINNERS was to be used primarily for planning and improvement of program services. If WINNERS decides to use this data for other purposes, it is the program's own decision.

POLITICAL IMPLICATIONS OF THE MAUT PROCESS

In the MAUT process, the multiple and different goals and objectives of a program provide the structure within which information is gathered. The evaluators, therefore, cannot choose their own outcome measurements; this choice is made by the group that generated the goals. The evaluator's major concern in using MAUT is to collect and analyze information relevant to the goals of each group. MAUT not only humanizes the evaluation approach, but also makes the process of decision making more democratic by involving interested groups in social decisions.

Once a local program has been promised complete confidentiality with respect to all information gathered, one must consider the implications of such a policy on the funding agency. Growing interaction between local programs and the federal government indicates that federal agencies continue to exercise control over local programs by regulating the flow of funds and by establishing policy guidelines. Consequently, the federal requirements for evaluation still reflect an overriding concern for budget and a cost-effectiveness approach to program assessment. The result is that most evaluations for federal agencies have become irrelevant to the operational needs of the programs concerned; evaluation has tended to be a strictly pro forma requirement in order to guarantee continued funding. Evaluation for the purpose of improving services and program effectiveness can thus be encouraged by changing federal priorities with regard to evaluation. Instead of limiting itself to budget concerns, the federal government should support evaluation studies aimed at assisting the needs of program practitioners at the local level.

Judging from the impact of the MAUT approach on the local level, a strong case could be made for its usefulness to program planners and decision makers. In providing information relevant to the goals and outcome measures developed by the local unit, it recognizes the local program as a unique entity and makes a positive contribution to the future development of the program. The MAUT process can also be used to aid the funding agency. Goals and objectives generated by the funding agency can serve as guidelines for the process of gathering information relevant to future planning and policy formulation.

However, the goals generated by groups at the local level can be part of the information collected only if each group agrees to exchange its information with the federal agency or with other groups. Experience in the field indicates that information exchange is usually favored. But the decision may be a difficult one for program people at the local level. They worry that the "real" goals they make public may be in conflict with those of the federal agency. Furthermore, the program's goals might be too ambitious, thus causing the results to indicate a large disparity between stated goals and actual performance. It is always feared at the local level that the federal agency might use the information as a punitive tool. The federal agency should therefore honor the wish of local practitioners for confidentiality. Information regarding the extent to which the local program is accomplishing its own stated goals should be made public only with the program's permission. If government funds are distributed because of need (as is the case with WINNERS), then federal agencies should be more inclined to assist local programs in improving their services. If this means that more autonomy must be given to local programs in determining goals and alternatives, then evaluation should be supported and encouraged for use as a planning tool. Moreover, cooperation and participation in the evaluation process, and utilization of evaluation results, are most likely to take place if this attitude is adopted; evaluation should not cause fear and anxiety, but should be viewed positively and constructively.

In the case of WINNERS, FIPSE has agreed that all information relevant to the program's goals should be used as an aid in planning and improving the program's services. Thus, FIPSE has realized the full usefulness of evaluation in the decision-making process. WINNERS and FIPSE have agreed to exchange their lists of ranked and weighted goals, and there is a good chance as well that WINNERS' trustees might be willing to exchange the information collected on their goals with FIPSE. The WINNERS evaluation provides an excellent example of the way in which the evaluative process can be used to benefit all participants, especially at the local level.

HOW "REAL" ARE THE GOALS?

The usefulness of the MAUT approach, or of any other mode of evaluation, depends on the openness and frankness of the program personnel or whoever is generating the goals. How "real" are these goals? That is, to what extent do they accurately express the needs and aims of program people? This question is a critical one.

It can, of course, be claimed that the outcome of any model depends upon the quality of the input. This is, however, a short cut. Goals may fail to reflect fully the concerns and values of program personnel for a number of reasons. There may be a lack of frankness because these goals are in conflict with those of the funding agency, or because they are perceived as socially undesirable. The program staff may be unwilling to cooperate with the evaluator because they see no advantage in doing the evaluation. Or the fault may lie with the evaluator himself: he may lack the necessary skills to develop a constructive rapport with program personnel, thus harming the process of goal generation.

Arguments against goal-oriented evaluation are centered around two issues. First, programs have other important goals in addition to improved services. Second, program people often find it difficult to distinguish real goals from those which may be justifications for fund raising, justifications for various program activities, or simply political rhetoric.

WINNERS' goals reflect not only the program's interest in improving services, but also its concern for community relations, financial needs, staff development, and more long-range goals. When importance weights are added for each category (see Table VI-2),

TABLE V-2

GROUPING GOALS INTO MAJOR CATEGORIES

Service-Oriented Goals	(Total Categorical Weight = 36.6%)
Help adult women continue their education	(12.2%)
Provide services on campuses as well as at WINNERS	(10.1%)
Improve all our supportive services	(7.0%)
Develop audio-visual services	(1.4%)
Provide assistance to high school students	(4.2%)
Research on adults before and after entering school	(1.7%)
Community-Oriented Goals	(Total Categorical Weight = 19.5%)
Extensive community and institutional outreach	(8.7%)
Promote advertising through the media	(5.2%)
Increase board commitment	(3.5%)
Become a viable political force in the black community	(2.1%)
Financial Development Goals	(Total Categorical Weight = 18.8%)
Develop greater credibility with funding sources	(13.9%)
Make the community more responsible for our financial support	(2.8%)
Promote services to the business community	(2.1%)
Staff Development Goals	(Total Categorical Weight = 16.8%)
Staff to develop strong commitment to the program	(7.1%)
Increase diversity of staff	(5.6%)
Promote staff in training programs	(4.2%)
Long-Range Goals	(Total Categorical Weight = 7.6%)
Become a consulting agency to other institutions around continuing education	(1.7%)
Provide job development and placement	(5.2%)
Develop a relationship wtih black institutions to enable minority students to attend them	(0.7%)

the picture reveals that WINNERS' goals are comprehensive and "real," reflecting accurately the program's concerns and values.

The extent to which the goals are "real" and encompass the group's values and concerns depends upon the following factors: (1) The evaluator should spend a good deal of time getting to know the program, its personnel, and its problems; this helps the staff to develop a more trusting and more positive attitude toward the evaluation. (2) The evaluator should maintain the highest standards of confidentiality at all times.

In the case of WINNERS it was recognized from the start that an open and mutually supportive relationship between the evaluator and the program staff was necessary for the success of the evaluation. The evaluator took great care to ensure that the goals that were generated accurately reflected the true concerns of the staff. It is believed that this effort was successful, for the following reasons. First, the evaluator spent an average of one day a week with the staff. Second, it was promised that none of the information collected would be made public without the prior consent of the program. Third, the program director and the staff strongly believed that the evaluation would provide them with useful knowledge about their program, thus helping them to improve their activities and services. Lastly, through long discussions with the staff, it was made clear that the usefulness of the evaluation depended upon the extent to which the goals were "real" — the extent to which they expressed the true aims and values of the personnel. One must recognize that sites vary in the quality of their organization and in the cohesiveness of their staff. WINNERS' staff is a closely knit group that is deeply committed to improving the lives of low-income women. This is certainly an important factor which influenced the staff's desire to generate "real" goals and to improve the program's services.

INDIVIDUAL DIFFERENCES AND VALUE CONFLICTS

Individual differences and intergroup disagreements are common in group discussions. Conflicting values are most likely to occur at the point when the group is asked to rank and weight the goals.

The evaluator should encourage group discussion and exchange of information. Systematic sharing of attitudes and views can sometimes moderate and bring together the differences among group members. The experience gathered from the study on WINNERS, the Department of Mental Health, and other evaluations indicates that the group process is extremely important, since it tends to build group consensus on the ordering and weighting of goals. Intergroup differences within an organization are a reality which must be faced. From the point of view of evaluation, they do not create any serious problems. If disagreement within a group persists, the group can simply be split up. The same data collected can be given to each group, although the different weighting of goals will yield different conclusions. These different conclusions about the extent to which the program is accomplishing its goals can provide a basis for discussion among the diverse groups. This, then, offers a means to improve communication between groups, and also to enrich information and input on which to base informed decisions.

HOW STABLE ARE THE EXPRESSED UTILITIES?

The validity of the utility is a major concern in this type of evaluation. "Validity" here refers to the extent to which opinions and judgments about utilities and probabilities on the part of an individual or group are completely and honestly expressed.

One of the arguments against decision theory is that it is difficult and often impossible, due to the large number of people involved in the process, to obtain a workable consensus on utilities. Lack of consensus is often tied to individual differences in opinions and assumptions. However, experience in the field indicates that agreement on utilities can be attained. This is not to say that is possible in every case; it depends to a large extent on the relationship of the individuals to the organization and on their relationship to each other.

The stability of the weight assigned to each goal and to each outcome measure is critical. The evaluator can help the group or individual to examine various preferences and can help clarify these preferences. The group should understand the implication of weighting a goal, and the impact of developing the utility of outcome in the final analysis. It is always possible that utilities may be underestimated or overestimated. However, the results and the final analysis should give the decision maker a better understanding of the utilities in the second cycle of the evaluation. For example, one of the measures for a WINNERS' goal was "the percentage of clients referred to educational institutions." For the director, 50 percent referral yielded a maximum utility of 1.0. Since the results indicated that more than 50 percent were actually referred, the maximum utility could subsequently have been revised upward to 60 to 70 percent.

It is also necessary to develop sensitivity analyses to examine the stability and consistency of a utility. The most important player, however, remains the person involved. One individual participating in the development of utility functions stated:[13]

> I've had to make tradeoff decisions like this all my life, but until now the process has always been somewhat fuzzy and left me with the feeling that I didn't completely comprehend all the implications of my subjective judgment. The use of utility theory and explicit tradeoffs helps considerably.

THE IMPACT OF THE MAUT PROCESS ON THE GROWTH AND DEVELOPMENT OF WINNERS

The impact of the MAUT process varies from one group to another; for WINNERS it has been a meaningful and relevant experience. The capacity of MAUT to shed light on program components, processes, and outcomes has made possible a useful assessment of the program's activities and planning processes. The specification of goals provided a means by which the group could identify crucial issues, discuss some of the special problems facing their work and their clients, determine priorities, and sort out conflicting values. The personnel felt that by specifying their goals and making them explicit they gained better insight into their work and their role within the program.

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[13] Ralph L. Keeney and Howard Raiffa, Decisions with Multiple Objectives: References and Value Tradeoffs (New York: John Wiley & Sons, 1976), p. 406.

Providing the staff with the opportunity to develop outcome measures benefited the study in a number of ways. (1) It increased the participation of the staff in the evaluation process. (2) It enhanced their belief that the evaluation was not designed for outside purposes but rather for WINNERS' own benefit. (3) It provided an incentive for the group to learn the approach and to become involved in the process and its outcome. (4) It generated information relevant to the needs of the program. (5) It encouraged WINNERS' planners to look into each aspect of the program and to assess its effectiveness and efficiency.

One of the most important advantages of the MAUT method is its appropriateness for use at the local level. Once the program director and the staff understand the methodology, they can use it as a tool to plan and evaluate their own services. It is therefore essential that the method be explained clearly and thoroughly to all participants. In the case of WINNERS this was done carefully; the program staff and the program director were all involved in each one of the following stages:

(1) The explanation of the methodology to the program staff.

(2) The distribution of a non-technical paper explaining each step.

(3) The involvement of the staff in clarifying issues and in specifying, ranking, and weighting goals.

(4) The development of outcome measures.

(5) The feedback from the staff regarding the quality and phrasing of questionnaires.

(6) The eliciting of the utility (usefulness) and best guess for each outcome.

(7) The explanation of the data analysis.

(8) The discussion of the results among the staff members.

It is hoped that further studies in evaluation using the MAUT approach will improve its application. A practical manual, aimed to assist program directors and their staff in evaluating their services and activities, would be of great benefit.

During the evaluation conducted for WINNERS and DMH, most of the people involved were interested in and enthusiastic about the MAUT approach; some even suggested that the model be adopted as an integral part of the planning stage. This was certainly feasible; given the fact that resources are scarce for many local programs, the MAUT approach is an efficient and inexpensive means of in-house evaluation. Each local program differs in size, complexity, and stage of development. The MAUT process takes into account these differences; it is flexible, individualized, and causes minimum interference with the day-to-day activities of the staff. As a result of the WINNERS evaluation, the program director is now serving as a member of a national advisory group on communities and crime — a group that is helping a federal agency evaluate its programs by using the MAUT approach. One of the staff members has decided to enroll at one of the local universities to study planning and evaluation. But the most extensive impact of the MAUT process can be seen in the planning and development of the program as a whole. As was indicated previously, new programs have been added and changes in existing programs have been made as a result of the MAUT approach and its impact on WINNERS' planning and management.

In presenting evaluation results to the program director at WINNERS, and to the various groups involved in the study for the Department of Mental Health, the response in each case was overwhelmingly positive. Comments were mostly centered around issues such as the relevance of the information to decision making and the practical knowledge accumulated as a result of the evaluation study.

THE ROLE OF THE EVALUATOR

The influence of the evaluator on the outcome of the evaluation study is a major concern. Objectivity on the part of the evaluator is a myth; he often makes value judgments about a program's effectiveness. As it was indicated previously, the MAUT process transfers the selection of outcome measures from the evaluator to the practitioner and [illegible]es the evaluator in the role of facilitator or mediator, rather than judge. Nevertheless, the evaluator is not a neutral entity. He inte[illegible] with program people, listens to their p[illegible]ns, and helps them clarify their values, specify their goals, and develop decision alternatives. In so doing, he becomes actively involved in the evaluation process.

Since MAUT is used as a planning tool, the evaluator must be familiar with all aspects of the program. His role is not only to collect and analyze data, but also to provide assistance in the various steps required before, during, and after the data has been collected and analyzed.

The evaluator first of all must be sensitive to the values and needs of the program staff. His own integrity and responsiveness are necessary for the development of trust and cooperation on the part of the program people. The decision to evaluate a program entails a personal commitment with serious responsibility. I myself spent a great deal of time with the people at WINNERS before the actual evaluation began. Explaining the evaluation process to trustees and staff members, and listening to the daily problems of the administrators and staff, brought about the development of a mutually supportive relationship between the evaluator and the personnel. People can quickly sense whether or not the evaluator wishes to help them, whether or not he is approaching his task positively and constructively. It is natural that upon his arrival the evaluator should be evaluated by the group. The "breakthrough" requires patience; the evaluator must clarify his role and examine his own values in relation to what is being done in the program.

From the point of view of social policy, I myself strongly believed that WINNERS' services were valuable and necessary. Therefore, my ultimate goal was to provide the program with relevant data and feedback for improving its services. I took an active role in my relationship with all members of the staff. In staff meetings I did not hesitate to express my opinions on various issues that arose as the evaluation progressed. Frankness and openness were essential on the part of all participants; the program director and staff members were consulted at all stages of the evaluation. This not only encouraged their trust and cooperation, but also served to convince them that evaluation could be a useful and constructive tool for improving WINNERS' services.

The use of MAUT makes it necessary for the evaluator to "get inside" the situation. He must take into account the historical dimensions, the political environment, and the social context of the program. This, in turn, clarifies the evaluator's own perceptions and helps him judge the quality of his work. The use of case studies, the writing of memoranda on findings, and continuous interaction with the program director and staff made the evaluation of WINNERS an integral part of the planning process. Inevitably, a great deal of time, energy, and dedication are required, but this is a satisfactory price for an effective evaluation.

APPENDIX A

AN EXAMPLE OF THE WINNERS NEWSLETTER

WOMEN'S INNER-CITY EDUCATIONAL RESOURCE SERVICE, INC.
I
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VOLUME I, Number 3 NEWSLETTER MAY 1977

WINNERS COMES CLOSE TO GOAL OF FISCAL AUTONOMY

WINNERS, in the past months, has made significant crossroads towards its goal of fiscal autonomy. After 4 years the organization is being seen as an important force and resource to be utilized by low-income, inner-city women who wish to enhance their education.

A major achievement of the past months is recognition of WINNERS by the City of Boston in the form of a $50,000 grant from the City of Boston Revenue Sharing Program. This money will provide a significant amount of the organization's operational budget for fiscal year 1977-78.

Private foundation funding sources have made three grants to WINNERS for the next fiscal year. These foundation sources are the Agnes V. Lindsey Trust, The Hyams Trust and the Polaroid Foundation. Money received from such sources will give WINNERS a certain amount of clout when dealing with other private sectors.

Corporations have begun to recognize WINNERS and its viability to the inner-city community. As a result of this they have made small

(Continued on Page 3, Column 2)

WINNERS PLANS GRADUATION EVENTS

Graduation time is here and WINNERS is planning two special events to honor and aid its 1977 graduates.

The first event will be geared towards the universal problem of obtaining employment upon graduation. This task will be tackled in a workshop conducted by Ms. Joyce Payne of Widening Opportunities Research Center (WORC) of Bedford, Massachusetts on May 25, 1977 from 10 a.m. to 1 p.m.

The workshop will concentrate on three specific areas, i.e., Resume Writing, Job Seeking Skills and Interviewing Techniques. These workshops will give WINNERS clients an advantage when entering the job market.

On a lighter vein, WINNERS will sponsor a reception for all of its 1977 graduates on June 12, 1977 from 3 - 6 p.m. At this time the '77 graduates will have a chance to mingle with members of the WINNERS Board and Staff, as well as with administrators from other schools. This is the first such reception and it promises to become an annual event.

(Continued on Page 3, Column 2)

MESSAGE FROM THE EXECUTIVE DIRECTOR

Dear Friends:

In the months since I wrote you in the first WINNERS NEWSLETTER, I am pleased to announce that we have come somewhat closer to our goal of self-sufficiency. We are at approximately 50% of this goal now and are hoping to make up the difference from the Federal Government for the next fiscal year.

As you have read in the cover story of the NEWSLETTER our funding has come from both public and private funding sources. The reason that we received this funding is because of the services that we provide to YOU ... You are the most important resource we have.

You know the resources and supportive services that we provide at WINNERS, sound honest, counseling; skills workshops; tutoring and advocacy we do this to help you meet your educational goals. The next question that you may ask is: "What can I do for WINNERS?"

As I mentioned in the first newsletter ... talk about us to your friends and family; tell school administrators and faculty about us; lobby for us with State and Federal legislators, write to them and tell them how WINNERS has helped you. Any positive publicity you give to the organization can only be to our benefit. Thank you for the support you have given us in the past and my thanks in advance for your future support.

Sincerely,

Marguerite Goodwin

Marguerite Goodwin
Executive Director

VOLUNTEER BI-LINGUAL COUNSELOR JOINS STAFF

Something, or rather someone, new has been added to the WINNERS staff, a Spanish-speaking counselor. Ms. Susan Greenberg, a Tufts student and native New Yorker joined the WINNERS staff as a volunteer worker in February, 1977. Ms. Greenberg is at WINNERS part-time to help the organization's Spanish speaking constituency in the same way that our regular counseling staff does with our English speaking clients.

The addition of a bi-lingual counselor to the WINNERS staff is an effort to reach out to the hispanic community, who now occupy a significant portion of the inner-city. Area schools, for example, Roxbury Community College and Newbury Junior College, have designed programs geared to this student population; the new staff addition will help the hispanic inner-city residents gain simple access to these and other college programs in the area.

Ms. Greenberg is currently involved in a massive outreach program, to make the Spanish speaking community aware of WINNERS and of the programs that we are able to offer to them.

"It is my hope," says WINNERS' Executive Director, Marguerite Goodwin, "that we will be able to provide other bi-lingual counselors, for example, a French speaking person to assist the Haitian inner-city community in achieving their educational goals."

Los miemberos de la comunidad hispanohablante que desean ver a la Sra. Greenberg pueden llamar por telefono 440 - 9150 para obtener una cita.

APPENDIX B

GOALS OF THE FUNDING AGENCY-
FUND FOR THE IMPROVEMENT OF POSTSECONDARY EDUCATION

22.8	(a)	provides services based on individuals' needs (educational, occupational and personal) rather than on institutions' needs.
15.1	(b)	enables individuals to take advantage of the entire range of postsecondary education and career options in a serious way throughout life.
7.6	(c)	provides comprehensive information about options and provides referral services.
6.5	(d)	provides client advocacy.
5.4	(e)	fosters increased access to educational activities.
5.4	(f)	fosters increased access to work and jobs.
4.9	(g)	enables individuals to save money.
4.9	(h)	enables individuals to save time.
4.9	(i)	enables individuals to save emotional "wear and tear".
4.9	(j)	provides diagnoses of individual needs and provides support services (e.g. counseling and tutoring).
4.9	(k)	enables individuals to assess their personal needs, to alter their self-conceptions, and to cope better with the world.
3.8	(l)	is cost-effective in balancing societal needs and fiscal expense.
3.8	(m)	is the recipient of stable financial support.
3.8	(n)	fosters changes in established institutions.
2.2	(o)	enables individuals to survive in institutions.
0.9	(p)	enables individuals to succeed and to flourish academically and occupationally.
0.4	(q)	enables individuals to use an array of human services appropriately.
0.2	(r)	is an additional cost that society should bear if individuals are well-served.
0.2	(s)	fosters services integration and linkages between institutions.
0.1	(t)	is an activity which cannot support itself.